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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF GEORGIA
GAINESVILLE DIVISION

SANTANA BRYSON and
JOSHUA BRYSON, as Administrators
of the Estate of C.Z.B. and as
surviving parents of C.Z.B., a
deceased minor,

Plaintiffs,

vs. CASE NO.: 2:2

ROUGH COUNTRY, LLC,

Defendant.

VIDEOTAPED

DEPOSITION OF: CHRISTOPHER D. ROCHE

DATE: July 17, 2024

TIME: 9:14 a.m.

LOCATION: Ann Arbor, Michigan

TAKEN BY: Counsel for the Defendant

REPORTED BY: Mary K. Stepp, Court Reporter

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1	APPEARANCES OF COUNSEL:	1 Bryson Crash, your report dated June 14th, 2024.
2	ATTORNEY FOR PLAINTIFF:	2 A. Yes, I can.
3	(Appearance via Zoom) CANNELLA SNYDER, LLC TEDRA L. CANNELLA, ESQUIRE	3 MR. HILL: All right. And this -- I'd
4	DEVIN L. MASHMAN, ESQUIRE 315 Ponce de Leon Avenue	4 like to mark this as Exhibit 1 to the deposition.
5	Suite 885	5 It's Bryson 9379 through 9398.
6	Decatur, Georgia 30030	6 (Defendant's Exhibit No. 1 was marked for
7	tedra@cannellasnyder.com	7 identification.)
8	devin@cannellasnyder.com	8 BY MR. HILL:
9	ATTORNEY FOR DEFENDANT:	9 Q. Have you brought this with you today to
10	(Appearance via Zoom) WEINBERG WHEELER HUDGINS GUNN & DIAL, LLC	10 the deposition?
11	RICHARD H. HILL, ESQUIRE 3344 Peachtree Road, N.E.	11 A. Yes, I have. I have it in front of me.
12	Suite 2400	12 Q. Okay. Great.
13	Atlanta, Georgia 30326	13 MR. HILL: And now I would like to mark as
14	rhill@wwhd.com	14 Exhibit 2 a document that we received just minutes
15	ALSO PRESENT:	15 prior to the start of your deposition.
16	Mike Brown, Videographer	16 (Defendant's Exhibit No. 2 was marked for
17	(INDEX AT REAR OF TRANSCRIPT)	17 identification.)
18		18 BY MR. HILL:
19		19 Q. Let me see if I can share my screen again.
20		20 Sorry for the technological delay. On the screen now
21		21 should be a document entitled "Material Received -
22		22 Amended List." Are you able to see that?
23		23 A. No, I can't see that at the moment.
24		24 Q. All right. Are you able to see it now?
25		25 A. Yes, I can.
	Page 3	Page 5
1	THE VIDEOGRAPHER: We're on the record.	1 Q. Okay. Great. This document is
2	The date, July the 17th, 2024. Time on the video	2 Bates-labeled Bryson 10995. This Amended List, when
3	monitor, 9:14 a.m., marks the beginning of video 1,	3 was this prepared?
4	deposition of Christopher Roche, in the matter	4 A. So, I think it was prepared in the last
5	Santana and Joshua Bryson versus Rough Country, LLC.	5 day or so. I am noticing that some of that Amended
6	My name is Mike Brown, representing	6 List is an over -- is a duplication of my first
7	Veritext Legal Solutions. I'm the videographer. Our	7 supplemental report, list of availables -- materials
8	court reporter is Mary Stepp.	8 available for review. So that for production had
9	Counsel, please state your name for the	9 already been stated in my prior supplemental report.
10	record and whom you represent.	10 Q. Okay. Well, let's --
11	MS. CANNELLA: Tedra Cannella, Devin	11 MS. CANNELLA: I'll just state for the
12	Mashman for the Plaintiffs, the Bryson family.	12 record what I stated while the witness and counsel
13	MR. HILL: Rick Hill for Defendant Rough	13 were here earlier. We -- our -- my office produced
14	Country.	14 this moments ago because we realized that the Buchner
15	THE VIDEOGRAPHER: Will the court reporter	15 two -- last two Buchner reports and the Buchner rough
16	please swear in the witness.	16 rebuttal deposition is not on it. So the list is the
17	(Witness sworn.)	17 same in all things, except for the last three items.
18	CHRISTOPHER D. ROCHE,	18 BY MR. HILL:
19	having been duly sworn, testified as follows:	19 Q. Okay. So if we look at the bottom of this
20	EXAMINATION	20 list, I think what Ms. Cannella is referring to is
21	BY MR. HILL:	21 everything below where it says "Deposition of
22	Q. Thank you, Mr. Roche. I'm going to share	22 Jonathan Eisenstat with all exhibits." Is it your
23	my screen here, at least attempt to.	23 testimony, Mr. Roche, that the material below what
24	Are you able to see the screen now? It's	24 I've just mentioned are the new materials that you're
25	a -- should have on there the Investigation of the	25 adding to your list of materials reviewed in

	Page 6		Page 8
<p>1 connection with your June 14th report?</p> <p>2 A. So those materials have been made</p> <p>3 available to me. I have seen the Buchner amended</p> <p>4 report, the rebuttal report, and his deposition, but</p> <p>5 that was subsequent to this report being authored.</p> <p>6 Q. Okay. So the material listed in your June</p> <p>7 14th report, that is material that you reviewed or</p> <p>8 was made available to you prior to June 14th that was</p> <p>9 in addition to the material that was listed in your</p> <p>10 initial and supplemental reports, is that a fair</p> <p>11 statement under Section B of your June 14th report?</p> <p>12 A. Yes, I would agree with that.</p> <p>13 Q. Okay. And prior to issuing your June 14th</p> <p>14 report, is there any material that was made available</p> <p>15 to you for review, other than what's listed in</p> <p>16 Section B of your June 14th report and what was</p> <p>17 listed in prior reports of -- you know, predating</p> <p>18 June 14th?</p> <p>19 A. No, I don't believe so.</p> <p>20 Q. Okay. And then now moving to this Bryson</p> <p>21 10995, which I'd like to mark as Exhibit 2, if I</p> <p>22 didn't mention that earlier. I believe what you're</p> <p>23 saying is that the bulk of this is repetitive of</p> <p>24 material you've already listed, and that the only new</p> <p>25 material you've reviewed since June 14th are</p>	Page 7	<p>1 that.</p> <p>2 Q. Okay. And was that at your direction</p> <p>3 or -- or tell me how that came to be.</p> <p>4 A. Well, those materials were provided to me</p> <p>5 in the last few days. And obviously my current</p> <p>6 report that you have dated June 14th doesn't</p> <p>7 accurately reflect those new materials. So it was</p> <p>8 agreed that we should make sure that was clear.</p> <p>9 Q. All right. Do you know exactly when you</p> <p>10 were provided with these additional materials after</p> <p>11 June 14th?</p> <p>12 A. Uhm, I know the deposition transcript or</p> <p>13 the initial draft of it was provided on Friday, uhm,</p> <p>14 but the dates of the others I don't remember. It's</p> <p>15 been in the last few days.</p> <p>16 Q. All right. And did you produce any</p> <p>17 correspondence from Ms. Cannella that relates to your</p> <p>18 receipt of these additional materials?</p> <p>19 A. I did provide correspondence files that</p> <p>20 were relevant. I don't recall if I captured this</p> <p>21 most recent correspondence, though. Because I had</p> <p>22 that file, assuming we would depose on Friday, and so</p> <p>23 I captured the correspondence up till Friday. I</p> <p>24 don't think I've managed to capture any</p> <p>25 correspondence subsequent to that.</p>	Page 9
<p>1 Bucknel -- Buchner's rebuttal. And it says "depa."</p> <p>2 I assume that means -- meant to be "depo" file</p> <p>3 materials, which is listed as Bryson 9409 through</p> <p>4 9527; the Quest FR26 Report; the Quest FR26 Report</p> <p>5 Support; the Buchner Amended FR26 Report; the Buchner</p> <p>6 Rebuttal Report; and the Rough Draft of Bryant</p> <p>7 Buchner's Rebuttal Deposition. Is that -- have I</p> <p>8 correctly described that?</p> <p>9 A. Yes, I think that's a fair description.</p> <p>10 Q. All right. And when it references the</p> <p>11 Quest FR26 Report, 10519 Bryson, what -- what is</p> <p>12 that? Is that the original Quest report or is</p> <p>13 that -- what is that referring to?</p> <p>14 A. Yes, I think that's Mr. Buchner's original</p> <p>15 report.</p> <p>16 Q. And same when -- with regard to Quest FR26</p> <p>17 Report's Support? Is that -- that the support that</p> <p>18 references his original support?</p> <p>19 A. I believe so, yes.</p> <p>20 Q. Okay. And did you review those for the</p> <p>21 first time after June 14th?</p> <p>22 A. I guess.</p> <p>23 Q. Okay. And was this document here that's</p> <p>24 been listed as Exhibit 2, did -- did you draft this?</p> <p>25 A. I did not. Ms. Cannella's office drafted</p>	Page 7	<p>1 MS. CANNELLA: We can get that to you,</p> <p>2 Rick.</p> <p>3 MR. HILL: Sure.</p> <p>4 MS. CANNELLA: No problem.</p> <p>5 BY MR. HILL:</p> <p>6 Q. Is it safe to say that the opinions that</p> <p>7 you've rendered in your June 14th report, that if we</p> <p>8 look at the materials listed in -- under paragraph B</p> <p>9 of that report and we combine it with all of the</p> <p>10 material you have listed in prior reports, that we</p> <p>11 have an exhaustive list of the material that you had</p> <p>12 available to you in issuing your June 14th report?</p> <p>13 A. Yes, that's correct.</p> <p>14 Q. Okay. If we then add the material on</p> <p>15 10995, do we have an exhaustive list of all of the</p> <p>16 material you've reviewed or been made available to</p> <p>17 you prior to today?</p> <p>18 A. Yes, I think that's also true.</p> <p>19 Q. Okay. Have you ever requested an</p> <p>20 opportunity to inspect the crash test vehicles?</p> <p>21 A. I was not aware that those vehicles were</p> <p>22 available, at the time I was authoring this -- this</p> <p>23 report.</p> <p>24 Q. Did you ask if they were available?</p> <p>25 A. I think Ms. Canne- -- Cannella and I</p>	Page 8

<p style="text-align: right;">Page 10</p> <p>1 discussed it. Uhm, but frankly their first step was 2 to go through the materials provided and to see if it 3 was sufficient for me to write this report, and they 4 were, at that time.</p> <p>5 Q. When did you learn that the materials -- I 6 mean, that the test vehicles were available for 7 inspection?</p> <p>8 A. Well, frankly, that was only really 9 confirmed when I read Mr. Buchner's deposition 10 transcript.</p> <p>11 Q. And when you say last Friday, that would 12 be July 15th or -- wait, no, I'm sorry. July 12th?</p> <p>13 A. Last -- last Friday. July 12th, yes.</p> <p>14 Q. All right. How many crash tests in your 15 career have you performed or participated in, in 16 connection with your work as a consultant in 17 litigation?</p> <p>18 A. So you're referring specifically to my 19 time at Robson Forensic?</p> <p>20 Q. Yeah. As a -- your time at Robson 21 Forensic, you work as a consultant. And I think we 22 talked in your previous depositions about your 23 experience in that capacity in a litigation context.</p> <p>24 And so my question is, how many crash 25 tests have you been involved in, in connection with</p>	<p style="text-align: right;">Page 12</p> <p>1 Q. Right. All right. Any other cases where 2 you analyzed any type of crash testing done by the 3 other party?</p> <p>4 A. I'm currently engaged in organizing 5 testing for another case, so I would -- that case 6 is -- testing in that case is still ongoing. So 7 that's another example.</p> <p>8 In terms of -- for vehicle crash tests, 9 no, I think the -- I think that is the -- the one -- 10 one other case I've examined for vehicle crash 11 tests --</p> <p>12 Q. All right. And -- and -- go ahead. 13 Sorry. Thought you were finished.</p> <p>14 A. Yeah, with respect to litigation, 15 obviously my prior experience was involved in many, 16 many crash tests.</p> <p>17 Q. Right. Well, I'm -- I'm asking just in 18 the context of litigation. So I don't want you to 19 disclose any confidential information about the other 20 tests. But you said you're -- you're currently, I 21 guess, consulting as an expert in another case where 22 you said you are organizing testing for that case. 23 Did I hear that correctly?</p> <p>24 A. Yeah. I'm investigating the possibility 25 of conducting testing related to -- to that</p>
<p style="text-align: right;">Page 11</p> <p>1 your consulting work in litigation?</p> <p>2 A. And by -- can you define what you mean by 3 "crash test"?</p> <p>4 Q. Sure. An actual, real wor- -- real world 5 crash test, where vehicles are crashed in connection 6 with the litigation.</p> <p>7 A. So, I can think of -- so, sorry to be 8 asking so many questions. But you mean where I 9 initiated, uhm, the request for testing and conducted 10 the testing or was involved in reviewing crash 11 testing that had been conducted by another party?</p> <p>12 Q. Either one. We know you've reviewed the 13 crash test conducted by another party in this case, 14 so we'll start with that.</p> <p>15 Have you in any other cases reviewed crash 16 testing conducted by another party?</p> <p>17 A. Yes, I have.</p> <p>18 Q. All right. Tell me about that.</p> <p>19 A. So, that is a case that was -- it's listed 20 on my deposition history. So that was -- I'll have 21 to look at that list. It was the case against Ford. 22 It is the Young versus Procomm Advanced Quality 23 Solutions is -- is the case that's listed on my 24 testimony history. So the one back when I was 25 deposed in October of last year.</p>	<p style="text-align: right;">Page 13</p> <p>1 particular case.</p> <p>2 Q. Okay. So testing hasn't actually occurred 3 in that other case?</p> <p>4 A. That's correct.</p> <p>5 Q. All right. And is that the only case in 6 the litigation context where you have either 7 organized, directed or participated in any way in -- 8 in an actual crash test?</p> <p>9 A. No. There's been other cases where we 10 were looking at the possibility or actually 11 determining the test setup and procedures. So there 12 have been other instances where I was involved in 13 test setup, test planning.</p> <p>14 Q. And did those tests actually go forward?</p> <p>15 A. They -- they did not in that case.</p> <p>16 Q. Okay. So has there ever been a case where 17 you have participated in, in the ways you've 18 described, a crash test that actually went forward in 19 the litigation context?</p> <p>20 A. Well, the -- the example I gave you 21 earlier was the case where I was deposed last year, 22 where two crash tests were performed. And I was able 23 to review all the materials related to those crash 24 tests.</p> <p>25 Q. Yeah. Maybe I asked it the wrong way. I</p>

<p style="text-align: right;">Page 14</p> <p>1 mean, in situations where your side of the V, the 2 client that you were retained by, where crash testing 3 was done on their behalf, have you ever been involved 4 in a case where crash testing of that type actually 5 went forward?</p> <p>6 A. Not at this time.</p> <p>7 Q. Okay. Now that you've had a chance to 8 review the deposition of Mr. Buchner and his amended 9 and rebuttal reports, are you aware whether he has 10 any criticisms of the way the test Escape was 11 ballasted in this case?</p> <p>12 A. I'm not going to try and summarize 13 Mr. Buchner's opinions. I'm here to discuss my -- my 14 report and my opinions.</p> <p>15 Q. Well, do you know if he has any criticisms 16 of the weight ratio of the Escape in the crash test?</p> <p>17 A. I don't know. There's an awful lot of 18 dialogue about the weights. I'm aware of that. He 19 measured the -- the weights. I know he and 20 Mr. Grimes have some disagreement there. But, again, 21 that's -- I highlighted my own concerns with the way 22 the test was run and ballasted, so I would prefer to 23 discuss that.</p> <p>24 Q. Are you aware that the HVE software that 25 Mr. Buchner used to run his simulations did not allow</p>	<p style="text-align: right;">Page 16</p> <p>1 A. Well, the industry standards I am 2 referring to relate to industry crash tests. For 3 example, I reference FMVSS 301. So there are 4 procedures, there are very well-documented procedures 5 for 301, and that's what I'm referencing against.</p> <p>6 In this particular crash test that was 7 performed, you know, the stated objective was to 8 match the weights of the subject crash. So I'm 9 commenting on whether that is a fair statement, 10 whether it -- it does represent or not, and that's 11 really what I'm commenting on.</p> <p>12 Q. Other than the procedures for FMVSS 301, 13 are there any other standards that you claim apply to 14 ballasting of a test vehicle in a -- in a forensic or 15 litigation context?</p> <p>16 A. Well, there are -- there are many FMVSSs. 17 There are many tests standards. There's IIHS, 18 there's other -- other standards around the world. 19 Those are the standards that are used to certify or 20 evaluate vehicle performance. As -- it's in that 21 instance I'm referring to industry practice.</p> <p>22 So, for the -- for example, the use of 23 Stoddard solvent. So if you're trying to represent 24 the fuel weight, Stoddard solvent is a good solution 25 for that. So the weight is placed in the correct</p>
<p style="text-align: right;">Page 15</p> <p>1 him to ballast the Escape, as you suggest should have 2 occurred in the actual crash testing in this case?</p> <p>3 MS. CANNELLA: Objection.</p> <p>4 THE WITNESS: I don't --</p> <p>5 MS. CANNELLA: It's not -- sorry, Chris. 6 Objection, foundation. And I believe -- I'll just do 7 the form objection.</p> <p>8 BY MR. HILL:</p> <p>9 Q. You can go ahead and answer, if you can.</p> <p>10 A. Yeah, I -- I didn't run any HVE simulation 11 as part of my work in this particular case, and I 12 will defer to Mr. Buchner regarding the work he's 13 done.</p> <p>14 Q. All right. You're familiar with HVE 15 simulation software, correct?</p> <p>16 A. HVE software is not a software package 17 that I at Robson Forensic currently utilize.</p> <p>18 Q. Have you ever util- -- utilized it?</p> <p>19 A. No, I haven't to date used HVE software.</p> <p>20 Q. All right. You make reference in your 21 report with regard to the ballasting of the Escape of 22 industry standards for ballasting vehicles. Can you 23 state any source that you have for an industry 24 standard for ballasting a vehicle for a crash test in 25 a litigation context?</p>	<p style="text-align: right;">Page 17</p> <p>1 location. So that's really what I'm discussing in my 2 report.</p> <p>3 Q. What is the FMVSS 301 test? What does 4 that relate to? What is that for?</p> <p>5 A. 301 relates to fuel system integrity.</p> <p>6 Q. Right. And it's a -- FMVSS is the Federal 7 Motor Vehicle Safety Standards, so it's a compliance 8 test. You'd agree with that, correct?</p> <p>9 A. I would agree with that, yes.</p> <p>10 Q. All right. Speaking of the Stoddard 11 solvent. Do you agree that Mr. Crosby and Mr. Grimes 12 used the published curb weight of the Escape as a 13 starting point for their ballasting of the test 14 Escape?</p> <p>15 A. Uhm, I would -- I would say I've reviewed 16 what they supplied, in terms of the capacity of the 17 weight and the document related to the test weight, 18 and I've compared those two. And I can see some 19 aspects of how they -- I know what they claim the 20 test weight was.</p> <p>21 No photographs were provided of the 22 vehicle in the test weight condition on a scale, for 23 example. And I can see that there are certain items 24 that were fitted to the test vehicle, where the 25 weight wasn't provided.</p>

<p>1 So really that's -- that's what I've 2 assessed is the comparison of the documents they 3 provided, in terms of the weight and the weight 4 distribution.</p> <p>5 Q. Yeah, I understand that. But my question 6 was, did they use the published curb weight of the 7 Escape, as their starting point in ballasting the 8 test Escape?</p> <p>9 A. I -- at this time, I don't recall the 10 foundation of -- of their starting weight. I know -- 11 I know what -- they reported the weight they're 12 attempting to get to. I was really more interested 13 in how they achieved that by the distribution of the 14 ballast.</p> <p>15 Q. Assuming that they did use the published 16 curb weight of the Escape as a starting point, do you 17 agree that the weight of the fuel is already 18 represented in the published curb weight of the 19 vehicle?</p> <p>20 MS. CANNELLA: Objection to the form of 21 the question. Confusing.</p> <p>22 BY MR. HILL:</p> <p>23 Q. Answer, if you can.</p> <p>24 A. So, you know, Mr. Grimes' assertion was 25 that he was trying to match the weight condition of</p>	<p>Page 18</p> <p>1 that way, but I can't say that every manufacturer 2 does.</p> <p>3 Q. Do you know whether that is true for a 4 Ford Escape?</p> <p>5 A. No, I didn't evaluate Ford's particular 6 published data.</p> <p>7 Q. So as we sit here today, you're not aware 8 as to whether the published curb weight by Ford for 9 the Ford Escape involved in this crash included 10 weight for fuel?</p> <p>11 A. No, I do not.</p> <p>12 Q. Okay. Can you please state any industry 13 standard or federal standard that you know that 14 applies to ballasting a vehicle to act to the 15 condition, when no test dummies are used in a crash?</p> <p>16 MS. CANNELLA: Can you say that again?</p> <p>17 I'm sorry.</p> <p>18 MR. HILL: The court reporter can read it 19 back, yes.</p> <p>20 (The foregoing question was read back by 21 the court reporter.)</p> <p>22 MS. CANNELLA: Object to the form of the 23 question. It's confusing.</p> <p>24 BY MR. HILL:</p> <p>25 Q. Go ahead.</p>
<p>1 the subject vehicle. So what I know from reviewing 2 the test is that the crash test was conducted with an 3 empty fuel system. And we know that the subject 4 vehicle had fuel in its system. And, therefore, the 5 weight is not in the correct location. The fuel 6 weight is going to be applied to the vehicle in a 7 different location than the fuel tank.</p> <p>8 Q. Do you know how much fuel was in the 9 subject vehicle, at the time of the incident?</p> <p>10 A. Not off the top of my head.</p> <p>11 Q. Do you know was -- whether Mr. Buchner 12 accounted for any weight of the fuel in his 13 simulation?</p> <p>14 MS. CANNELLA: Objection to the form. 15 (Cross-talking.)</p> <p>16 THE WITNESS: I don't know what to say. I 17 will defer.</p> <p>18 BY MR. HILL:</p> <p>19 Q. Okay. Simple question -- and I got 20 criticized for calling it a simple question in the 21 last deposition, so maybe I shouldn't use that term.</p> <p>22 But do you agree that the published curb 23 weight of a vehicle includes the weight of a 24 fuel -- of a full tank of gas?</p> <p>25 A. I know that some manufacturers view it</p>	<p>Page 19</p> <p>1 A. So, that's a very broad question. There 2 are a lot of test procedures and standards out there 3 between FMVSS, the NCAP program, IIHS testing. Uhm, 4 I am -- for most dynamic forward-vehicle crash 5 testing, occupants are, as to the test procedure, 6 where -- as they are typically designed to assess 7 occupant injuries. So...</p> <p>8 Again, I have -- you know, I haven't 9 considered that question. There's a lot of tests out 10 there that may well be an instance, but as I sit here 11 today I cannot give you one.</p> <p>12 Q. Do you have any support for the 13 application of the procedures used in NCAP or FMVSS 14 compliance testing to forensic testing in the 15 litigation context?</p> <p>16 A. I think there's a great deal of --</p> <p>17 MS. CANNELLA: Object, because that calls 18 for a legal -- legal conclusion, legal opinion, 19 foundation.</p> <p>20 BY MR. HILL:</p> <p>21 Q. Go ahead and answer, if you can.</p> <p>22 A. I think there's a great deal of testing 23 conducted in industry to FMVSS and other 24 nonregulatory test modes. And that amount of 25 testing, there are a lot of resources. And so there</p>

<p style="text-align: right;">Page 22</p> <p>1 is the money available to help develop the right 2 types of procedures, methodologies, instrumentation, 3 so on and so forth, that the reconstruction crash 4 world or crash testing environment can utilize. 5 Q. Just so I make sure I understand this. 6 You've listed the FMVSS testing standards, NCAP, and 7 the IIHS testing as resources or sources for industry 8 standards related to crash testing. 9 My question is, did all of the impact 10 testing that you've cited to in your multiple reports 11 follow each of those three testing standards? 12 MS. CANNELLA: Object to the form of the 13 question. Which impacts testing are you talking 14 about? Defendant's -- 15 MR. HILL: All of them. 16 MS. CANNELLA: -- impact testing? 17 MR. HILL: No, he cited to multiple -- and 18 I don't want to go back and pull out every -- each 19 individual one. But my question is, he is -- should 20 be familiar with the testing done in relation to, you 21 know, the NHTSA testing he's referred to, 22 the -- there's testing actually in this June 14th 23 report that he references regarding NHTSA's 24 compat- -- compatibility testing in 2007. 25 Does he know whether the testing of that</p>	<p style="text-align: right;">Page 24</p> <p>1 obviously they're not very specific to certain types 2 of crash tests. So the compatibility tests are 3 designed for a different purpose. There is 4 commonality, in terms of the test setup, but they are 5 not the same tests. So, of course, they differ. 6 Q. So the question is, they differ, you say, 7 because they're not the same tests. And, therefore, 8 they did not comply with the FMVSS, NCAP, or IIHS 9 procedures you referenced, correct? 10 MS. CANNELLA: Object to the form of the 11 question, misstates his testimony. The procedures is 12 unclear what you're talking about. You're 13 compounding multiple things. 14 MR. HILL: Go ahead. We've only got three 15 hours because he's limited the deposition, so I'm 16 trying to -- 17 MS. CANNELLA: I -- I understand, but 18 asking -- 19 MR. HILL: Go ahead. 20 MS. CANNELLA: -- questions that are 21 designed to get him to give a sound byte on something 22 that isn't clear is not a fair question. 23 MR. HILL: I think it's perfectly clear. 24 MS. CANNELLA: Not clear -- 25 MR. HILL: I'm using -- I'm referencing</p>
<p style="text-align: right;">Page 23</p> <p>1 sort that he's referred to, whether those tests 2 complied with these industry standards that he's 3 referenced? 4 MS. CANNELLA: Objection, a compound 5 question and unclear. 6 BY MR. HILL: 7 Q. Go ahead. 8 A. So, specific to the compatibility testing, 9 those were research tests that were conducted to try 10 and evaluate the performance of vehicles, where there 11 is a lack of compatibility in terms of vertical 12 alignment. Uhm, so those were attempting to 13 replicate, to some degree, field crashes and -- and 14 field data that was available. 15 Q. Do you know whether that test complied 16 with the FMVSS, NCAP, and/or IIHS procedures? 17 MS. CANNELLA: Object to the form of the 18 question. The specific procedures you're asking 19 about is unclear -- 20 MR. HILL: Go ahead. 21 MS. CANNELLA: -- as to the different 22 tests. 23 BY MR. HILL: 24 Q. Go ahead. 25 A. Yeah, the -- the procedures I'm citing,</p>	<p style="text-align: right;">Page 25</p> <p>1 the very procedures that he's cited to, so he 2 should -- 3 MS. CANNELLA: Mr. -- 4 MR. HILL: -- know what I mean by 5 procedures. 6 MS. CANNELLA: Mr. Hill, there's pages and 7 pages and pages of procedures in those testing 8 reports. So if you have specific questions about 9 procedures, then please ask him about the specific 10 procedure you're talking about. 11 BY MR. HILL: 12 Q. Go ahead and answer the question, if you 13 can. 14 A. So in my report, I obviously understand 15 that the crash test that was conducted was attempting 16 to try and replicate this subject crash. And, 17 therefore, obviously it is not going to conform to 18 any one of the standard industry tests, because this 19 is a very specific crash. It's a real world crash. 20 And this Exponent test was attempting to replicate it 21 in some fashion. 22 My reference here relates to the 23 differences in the specific test setup that are both 24 inconsistent with the subject crash, nor consistent 25 with other procedures I'm aware of that are used</p>

<p style="text-align: right;">Page 26</p> <p>1 within industry for crash testing. 2 Q. Okay. So he was ab- -- able to answer the 3 question. 4 Do you know whether the weight of the 5 equipment that was placed into the test Escape was 6 calculated into the ballasting of the test Escape? 7 A. I'm -- well, based on the documentation 8 that was provided, it was hard to understand the 9 exact weight of the instrumentation and the exact 10 location of the instrumentation. Uhm, but I have -- 11 given that there was a target test weight, I am 12 taking it on good faith that that was included, and 13 so the test weight reflects the weight of those 14 individual test pieces of equipment.</p> <p>15 Q. And if individual pieces of that test 16 equipment was placed in the front axle position of 17 the vehicle, would you agree that it would be 18 improper to ballast the weight of the front 19 passengers, specific to their actual weight, because 20 you then would not be accounting for the weight of 21 the equipment?</p> <p>22 MS. CANNELLA: Object to the form of the 23 question. Foundation, incomplete hypothetical, 24 misrepresents the evidence that's been presented in 25 the case.</p>	<p style="text-align: right;">Page 28</p> <p>1 that's the case. I'm simply saying that the 2 ballasted weight doesn't conform to the subject 3 crash, which is not consistent with the stated aim of 4 the crash test.</p> <p>5 Q. Have you quantified the impact of this 6 difference in ballasting between the subject crash 7 and the test crash?</p> <p>8 A. No, I've -- I've not attempted to quantify 9 that.</p> <p>10 Q. Have you done any testing to determine the 11 impact of the ballasting issue, as you've described 12 on the test?</p> <p>13 A. No, I have not conducted any testing 14 related to that.</p> <p>15 Q. Have you performed any calculations 16 related to that issue?</p> <p>17 A. I've not performed calculations either --</p> <p>18 Q. Have you --</p> <p>19 A. -- as to that issue.</p> <p>20 Q. Sorry, I thought you were finished. I 21 apologize.</p> <p>22 Have you run any simulations to determine 23 the impact of the difference in the weight ballasting 24 between the crash test and subject crash?</p> <p>25 A. I've not conducted simulations as part of</p>
<p style="text-align: right;">Page 27</p> <p>1 BY MR. HILL: 2 Q. Go ahead. 3 A. So, I didn't see any evidence or 4 ballasting on the front axle, therefore, there's no 5 point related to that because no -- no documentation, 6 photographs or -- or explanation of that was 7 provided. 8 Q. You're aware that there was ballasting in 9 the front two seats, correct? 10 A. Yes. 11 Q. Okay. Do you know whether the ballasting 12 of the test Escape increased the crush or intrusion 13 that occurred in the test? 14 A. What I know is that -- and as I state in 15 my report -- 83 percent of the ballast was located in 16 the second row area, which is behind the center of 17 gravity of the Ford Escape. And that 18 significantly -- is significantly different to the 19 weight of the occupant and cargo in the second row in 20 the subject crash. 21 Q. Do you know whether this difference 22 between the weight in the subject crash and the crash 23 test, resulted in any increased crush or intrusion in 24 the test? 25 A. I'm not saying one way or the other, if</p>	<p style="text-align: right;">Page 29</p> <p>1 my work in this case. 2 Q. Do you agree that the axle weight between 3 the test crash and the subject crash were within 4 appropriate limits, in order to perform an 5 appropriate crash test?</p> <p>6 MS. CANNELLA: Object to the form of the 7 question. It's vague. Appropriate's not defined.</p> <p>8 BY MR. HILL: 9 Q. Go ahead. 10 A. Uhm, I haven't seen any of the defense 11 experts state what they believe the axle weights were 12 on the subject vehicle at the time of the crash. I 13 can see from their own report that the ax- -- rear 14 axle weight increased relative to the original test 15 that the original vehicle's weight pretest as 16 delivered. 17 And it increased, I think, off the top of 18 my head, somewhere around 3 percent, which is 19 obviously consistent with applying most of the 20 ballast behind the center of gravity. 21 That's -- that's my view on the ballasting. 22 Q. Okay. Any other opinions regarding the 23 ballasting of the test Escape that we haven't 24 discussed? 25 A. Oh, that the ballasting was</p>

Page 30	Page 32
<p>1 unrepresentative of the subject crash.</p> <p>2 Q. Right. Instead of -- that you have on</p> <p>3 that that we haven't discussed?</p> <p>4 A. Not at this time.</p> <p>5 Q. All right. Great. I'll turn next to the</p> <p>6 issue of overlap or offset. Not sure which term you</p> <p>7 prefer, so if I misuse them, please let me know.</p> <p>8 But I believe your report concludes that</p> <p>9 there was an additional offset by at least four</p> <p>10 inches in the crash test. And so I'd like to know</p> <p>11 how did you conclude that the offset in the test was</p> <p>12 at least four inches different from the subject</p> <p>13 crash?</p> <p>14 A. Yes. I'm saying that the offset was at</p> <p>15 least an additional four inches. I know the test was</p> <p>16 set up to try and achieve an offset of around 10.8</p> <p>17 inches. I looked at the damage pattern and compared</p> <p>18 the damage pattern of both the crash test vehicle and</p> <p>19 the subject crash vehicle, as well as studying the --</p> <p>20 the high-speed video and still images that were</p> <p>21 available.</p> <p>22 And the four inches is based on the fact</p> <p>23 that the sheet metal of the liftgate, outboard of the</p> <p>24 flipper glass, is induced damage in the crash test.</p> <p>25 And the four inches comes from the width of that</p>	<p>1 subject crash with direct contact damage. And so</p> <p>2 that measurement of four inches is the width of the</p> <p>3 sheet metal to the right of the flipper glass.</p> <p>4 Q. The last part is what I didn't understand.</p> <p>5 And I put up the -- I think you can see my screen --</p> <p>6 the photo -- the image you're referring to.</p> <p>7 A. Yes.</p> <p>8 Q. And when you say the width, the very last</p> <p>9 thing you said, are you talking about the width from</p> <p>10 the -- where I'm pointing to here, the glass to the</p> <p>11 edge of the vehicle? What exactly are you</p> <p>12 referencing, when you say the width of that</p> <p>13 structure?</p> <p>14 A. Yes. I -- I -- in some of my work</p> <p>15 product, you'll see there's an actual measurement</p> <p>16 taken from the exemplar scan data. So I measured the</p> <p>17 width of the liftgate sheet metal towards the base of</p> <p>18 this structure, but that's above that lower edge of</p> <p>19 the lift glass -- the liftgate through the flipper</p> <p>20 glass.</p> <p>21 Q. All right. In the subject crash, just so</p> <p>22 I understand this, the -- there was an offset in the</p> <p>23 subject crash. Do you know what that offset was?</p> <p>24 A. I know that Mr. Grimes reported it at</p> <p>25 around 10.8 inches.</p>
<p>1 sheet metal. In the -- in the subject crash we can</p> <p>2 see that there's direct contact damage in that --</p> <p>3 in -- in that area of the liftgate.</p> <p>4 Q. And just so I understand that, that you --</p> <p>5 your report says, "Based upon the deformation pattern</p> <p>6 of the liftgate and the width of the structure." So</p> <p>7 I think that's what you were just talking about. The</p> <p>8 width --</p> <p>9 A. Yes.</p> <p>10 Q. -- that the structure you referred to is</p> <p>11 what? Just so I know --</p> <p>12 A. It --</p> <p>13 Q. -- for sure.</p> <p>14 A. Yes, it -- it is -- maybe a picture would</p> <p>15 help.</p> <p>16 Q. I'll stop sharing so you can share your</p> <p>17 screen. I didn't realize I --</p> <p>18 A. Well, I'll --</p> <p>19 Q. -- was still sharing.</p> <p>20 A. I'm referring you to Image 2 of my report.</p> <p>21 Q. All right.</p> <p>22 A. So in Image 2, there are two dashed red</p> <p>23 overall circular shapes, and that's the area of the</p> <p>24 liftgate that I'm identifying, as comparing on the</p> <p>25 left in the crash test, induced damage on the right</p>	<p>1 Q. And do you agree with that determination</p> <p>2 of the offset in the subject crash? Excuse me.</p> <p>3 A. Uhm, I haven't personally analyzed that,</p> <p>4 but I -- I -- I understand his methodology and it</p> <p>5 seems a reasonable approach for his particular crash</p> <p>6 test setup.</p> <p>7 Q. And what was his methodology in</p> <p>8 terminating -- in determining the offset of the subject</p> <p>9 crash?</p> <p>10 A. He com- -- he compared the point cloud</p> <p>11 data of both -- of the two vehicles in a -- in a</p> <p>12 crash position, when he overlaid the two point clouds</p> <p>13 of the subject Escape and subject F250.</p> <p>14 Q. And so you haven't done -- I'm sorry. I</p> <p>15 thought you were finished. I apologize.</p> <p>16 A. Well, he just compared the lines of both</p> <p>17 cloud data, but that was just to conclude his</p> <p>18 methodology.</p> <p>19 Q. And that's your understanding of his</p> <p>20 methodology?</p> <p>21 A. That's right.</p> <p>22 Q. Okay. And you haven't undertaken to make</p> <p>23 that type of determination or, you know, used any</p> <p>24 type of scientific methodology to determine the</p> <p>25 offset in the subject crash?</p>

<p>1 A. So, I'm not -- my responsibility in this 2 case is not reconstruction. So Mr. Buchner's 3 responsibility is reconstruction. So I'm not trying 4 to duplicate what Mr. Buchner is doing.</p> <p>5 What -- what I'm trying to highlight here 6 is that clearly, simply from a damage pattern 7 analysis of the two vehicles, the crash test and the 8 subject vehicle, we can see that the damage pattern 9 is inconsistent between the two.</p> <p>10 Now, obviously there is a vertical height 11 difference, which I have accounted for. And I'm -- 12 I'm going off what the stated aim of the test was, 13 which was to match the offset, which Mr. Grimes 14 asserts is 10.8 inches, about 10.8 inches. And 15 whether or not he achieved that, that's what I'm 16 opining on here.</p> <p>17 Q. All right. Now, I'm a little confused. 18 You've referenced both Mr. Grimes and Mr. Buchner 19 with regard to their analysis of the offset and the 20 subject crash. Which of the two experts' work are 21 you relying upon with regard to that issue?</p> <p>22 A. Uhm, okay. I understand that may be a 23 little confusing response. So in this case, I have a 24 specific focus as directed by Ms. Cannella that is 25 not crash reconstruction. So I have not attempted,</p>	<p>Page 34</p> <p>1 A. Correct. 2 Q. And how did you use that to form your 3 opinion that the offset was at least four inches 4 different from the subject crash?</p> <p>5 A. No, that wasn't what I used to determine 6 the four inches. I've just described the method I 7 used to determine the four inches. But you can kind 8 of get a sense from reviewing the film of the loading 9 of that part of the -- of the liftgate.</p> <p>10 Q. In the subject crash, did any portion of 11 the F-250 impact the right side of the subject Escape 12 to the right of the window of the hatch? I'm trying 13 to understand that opinion. So, I'm referencing your 14 Image 2 and the area that you've circled with the 15 dotted circle.</p> <p>16 Are you saying that that portion of the 17 subject Escape was impacted directly by the subject 18 F-250?</p> <p>19 A. I'm saying that that area in the circle is 20 consistent with direct contact damage.</p> <p>21 Q. Okay. So you believe that the area in the 22 circle on the subject Escape and Image 2 is evidence 23 of direct impact from the F-250? Just trying to make 24 sure that's clear.</p> <p>25 A. Yes.</p>
<p>1 during the course of my work on this case, to do 2 reconstruction. I'm aware that there is a crash 3 reconstructionist for the plaintiff's side.</p> <p>4 But when I compared these images and the 5 stated objective of the crash test and what 6 Mr. Grimes was attempting to do, it was apparent to 7 me that he didn't achieve the offset he set out to 8 achieve. I'm not trying to reconstruct the subject 9 crash. I'm not trying to reconstruct his crash test. 10 I'm simply observing that the offset didn't achieve 11 the pretest objective.</p> <p>12 Q. Okay. And other than looking at the 13 photographs in Image 2 or any other photographs you 14 might have referenced, is there any other evidence or 15 information that you relied upon in concluding that 16 the offset was at least four inches different from 17 the subject crash?</p> <p>18 A. Well, it's a combination of looking at the 19 photographs and some of the films available. So 20 there is -- there is high-speed film available of the 21 crash test, and you can look at the alignment of the 22 hood to the Escape during that high-speed film. So 23 that's what I've used for the basis of that opinion.</p> <p>24 Q. So the -- I'm assuming you're referring to 25 the overhead view, high-speed film of the crash test?</p>	<p>Page 35</p> <p>1 Q. Okay. And the circled area for the test 2 crash Escape, your opinion is that in that area there 3 was no direct impact by the test F-250?</p> <p>4 A. That's right. I'm saying that's induced 5 damage.</p> <p>6 Q. Okay. And other than looking at these 7 photographs, can you tell -- tell me, you know, the 8 basis for that opinion?</p> <p>9 A. Just described the basis for that opinion. 10 I just walked you through that process.</p> <p>11 Q. Right. I'm just saying, so it's the 12 visual representation of the damage to the vehicles 13 that you're relying upon for that conclusion?</p> <p>14 A. It's the damage pattern analysis, combined 15 with measuring an exemplar Ford Escape, yes.</p> <p>16 Q. And just to be clear, what did you measure 17 on the exemplar Ford Escape?</p> <p>18 A. I measured --</p> <p>19 MS. CANNELLA: Objection, asked and 20 answered.</p> <p>21 BY MR. HILL:</p> <p>22 Q. Go ahead.</p> <p>23 A. I measured the width of the sheet metal to 24 the right of the flipper glass.</p> <p>25 Q. And that's from the edge of the flipper</p>

<p style="text-align: right;">Page 38</p> <p>1 glass to the edge of the vehicle; is that correct?</p> <p>2 A. It's to the rear-facing surface of the</p> <p>3 liftgate.</p> <p>4 Q. Okay. Do you know if the difference in</p> <p>5 the offset or overlap, whichever term you prefer,</p> <p>6 that occurred in the crash test had any impact on the</p> <p>7 level of crush or intrusion seen in the crash test?</p> <p>8 A. So in my experience, uhm, you have what</p> <p>9 we've discussed at great length, physical alignment.</p> <p>10 You also have lateral alignment between structures.</p> <p>11 So in the instance where there is less lateral</p> <p>12 alignment, so less overlap or more offset, the forces</p> <p>13 are concentrated on a smaller part of the -- the</p> <p>14 struct- -- the structure.</p> <p>15 Q. With the forces being applied to a smaller</p> <p>16 part of the structure, have you determined how much</p> <p>17 those greater forces increased intrusion or crush in</p> <p>18 the crash test?</p> <p>19 A. No. My opinion is that, again, if the</p> <p>20 objective of the crash test was to replicate the</p> <p>21 subject crash, this is another instance where it</p> <p>22 hasn't been replicated.</p> <p>23 Q. Have you done any work to determine</p> <p>24 whether this example of where the test crash did not</p> <p>25 replicate the subject crash had any impact to -- on</p>	<p style="text-align: right;">Page 40</p> <p>1 But my question is, have you done anything</p> <p>2 to quantify how the crash test would have been</p> <p>3 different, if the offset or overlap matched the</p> <p>4 subject crash?</p> <p>5 A. The purpose of my analysis was to really</p> <p>6 understand how representative the crash test is to</p> <p>7 the subject crash. That's -- that's, uh -- that was</p> <p>8 what I -- my objective and that's why I've written</p> <p>9 this report and formed the opinions I've had -- I --</p> <p>10 I have.</p> <p>11 Q. All right. Well, have you done any</p> <p>12 testing to determine the impact of the difference in</p> <p>13 offset on the results of the crash test?</p> <p>14 MS. CANNELLA: Asked and answered.</p> <p>15 BY MR. HILL:</p> <p>16 Q. Go ahead.</p> <p>17 A. No, I haven't. I've simply identified the</p> <p>18 discrepancy between the crash test that was performed</p> <p>19 and the subject crash.</p> <p>20 MR. HILL: We've been going about an hour,</p> <p>21 let's take a quick break. I need --</p> <p>22 MS. CANNELLA: Okay.</p> <p>23 MR. HILL: -- to use the restroom. I'll</p> <p>24 be back fast.</p> <p>25 THE VIDEOGRAPHER: Off the record 10:06.</p>
<p style="text-align: right;">Page 39</p> <p>1 the crash test?</p> <p>2 MS. CANNELLA: Object to the form of the</p> <p>3 question. Vague.</p> <p>4 BY MR. HILL:</p> <p>5 Q. Go ahead.</p> <p>6 A. In terms of -- do you mean in terms of</p> <p>7 quantifying intrusion levels?</p> <p>8 Q. That's right. Correct.</p> <p>9 A. No, I haven't tried to quantify difference</p> <p>10 in intrusion levels, other than looking at the</p> <p>11 survival space in the second --</p> <p>12 THE REPORTER: The what space? I'm sorry.</p> <p>13 THE WITNESS: Survival space.</p> <p>14 THE REPORTER: Thank you.</p> <p>15 MS. CANNELLA: In the second row.</p> <p>16 THE WITNESS: Right.</p> <p>17 MS. CANNELLA: I just want to finish it</p> <p>18 for her.</p> <p>19 THE WITNESS: In the second row.</p> <p>20 MS. CANNELLA: Yes.</p> <p>21 BY MR. HILL:</p> <p>22 Q. Analyzing the survival space in the second</p> <p>23 row between the subject crash and the crash test</p> <p>24 gives you an analysis comparing the crash test to the</p> <p>25 subject test.</p>	<p style="text-align: right;">Page 41</p> <p>1 (Recess was taken from 10:06 a.m. to</p> <p>2 10:13 a.m.)</p> <p>3 THE VIDEOGRAPHER: Back on the record.</p> <p>4 The time 10:13.</p> <p>5 BY MR. HILL:</p> <p>6 Q. Let's say that the crash test -- well, let</p> <p>7 me back up. Scratch that.</p> <p>8 When you testified that there was at least</p> <p>9 a four-inch difference in the offset, are you</p> <p>10 referencing the 10.8 offset calculated by Mr. Grimes</p> <p>11 or the 12-inch offset originally tested to --</p> <p>12 testified to by --</p> <p>13 MS. CANNELLA: Hey, guys --</p> <p>14 MR. HILL: -- by Mr. Buchner.</p> <p>15 MS. CANNELLA: -- sorry. I wasn't in the</p> <p>16 room. Can you -- can y'all check for me before you</p> <p>17 get started next time?</p> <p>18 MR. HILL: Oh, yeah. I thought you said</p> <p>19 you were ready. I -- I apologize.</p> <p>20 MS. CANNELLA: No.</p> <p>21 MR. HILL: Somebody said they were --</p> <p>22 MS. CANNELLA: I'm here.</p> <p>23 MR. HILL: -- ready. I thought it was</p> <p>24 you.</p> <p>25 MS. CANNELLA: No.</p>

<p style="text-align: right;">Page 42</p> <p>1 MR. HILL: Yeah, I was trying to sneak in 2 a question there before you got back. Sorry. 3 MS. CANNELLA: That's okay. 4 MR. HILL: Are you -- are you ready now? 5 Sorry about that. 6 MS. CANNELLA: I'm ready, don't worry. 7 Yeah, I'll turn on my camera so you can see me. 8 MR. HILL: All right. Sure. Sorry. I'll 9 reask the question. 10 MS. CANNELLA: Thanks. 11 BY MR. HILL: 12 Q. Uhm, the four-inch offset that you 13 testified about, Mr. Roche, is that relative to the 14 10.8 offset determined by -- by Mr. Grimes or the 15 12-inch offset that Mr. Buchner testified to, 16 originally -- 17 MS. CANNELLA: Object to -- 18 MR. HILL: -- just so we're -- 19 MS. CANNELLA: -- the form of the 20 question. 21 MR. HILL: -- just so we're clear. 22 MS. CANNELLA: Object to the form of the 23 question. Misstates Mr. Buchner's opinion. 24 BY MR. HILL: 25 Q. Go ahead.</p>	<p style="text-align: right;">Page 44</p> <p>1 So how Mr. Grimes reaches his conclusion 2 based on the crash test is -- is really what I'm 3 forming an opinion about, which is later in my 4 report. 5 Q. I'll ask it again. Have you done any work 6 to determine whether a crash test that hit the exact 7 10.8 offset, how the results would differ from the 8 actual crash test? 9 MS. CANNELLA: Object to the form of the 10 question. Number one, no one has testified that -- 11 or the witness has not testified that the offset was 12 exactly 10.8. He explained what the four inches 13 meant. Two, asked and answered. 14 BY MR. HILL: 15 Q. Go ahead. 16 A. So, again, my objective was to understand 17 the relevancy and the representativeness of this 18 crash test to the subject crash and what we can draw 19 from it, if anything, based on how it's conducted. 20 And so my goal was to identify or -- I have just 21 reported areas of discrepancy. 22 In terms of understanding the contribution 23 of each of the discrepancies, I would think that the 24 onus would fall on the people who ran the crash test, 25 not -- not myself.</p>
<p style="text-align: right;">Page 43</p> <p>1 A. Yeah, my -- my reference here is related 2 to Mr. Grimes' 10.8 inches. 3 Q. Okay. And so your testimony, just to be 4 clear, is that the offset is at least four inches 5 from 10.8? 6 A. Yeah. My testimony is that in the crash 7 test we can see induced damage in the liftgate in the 8 area that we discussed. There's -- there's contact 9 damage in the subject crash and that width is four 10 inches. 11 Q. Okay. Great. Have you done any work at 12 all to determine how the crash test would have been 13 different, if the offset in the crash test would have 14 been exactly 10.8? 15 A. So my report really, as I mentioned 16 earlier, is trying to identify how representative the 17 crash test is to the subject crash and -- and what, 18 if any, conclusions can be drawn from it. And what I 19 highlight throughout the report -- and I know you're 20 working through it, we're not there yet -- is there 21 are multiple instances where the crash test isn't 22 representative and there are multiple variables that 23 have been changed between the subject crash and the 24 crash test. So, therefore, isolating the 25 contribution of any one variable becomes impossible.</p>	<p style="text-align: right;">Page 45</p> <p>1 Q. So you have not reached any conclusions or 2 done any work to formulate those conclusions based 3 upon the discrepancies in the crash test? 4 MS. CANNELLA: Object to the form of the 5 question. It's confusing. And to the extent you're 6 asking if he was able to isolate the effect of the 7 misrepresentativeness of the Exponent crash test, he 8 has already stated his answer to that question. 9 THE WITNESS: What I'm saying is, there's 10 too many variables changed between the subject and 11 the crash test, so you can't draw meaningful 12 conclusions because it's unrepresentative. 13 BY MR. HILL: 14 Q. You cannot contra- -- draw meaningful 15 conclusions about what? 16 A. So, Mr. Grimes draws meaningful 17 conclusions from his crash test, right? So, for 18 example -- and I quote from page 11 of my report -- 19 "The difference in the seat deformation in both 20 Escapes is probably due to the lack of cargo in the 21 rear cargo area of the test Escape." 22 I -- what I'm saying in my report is, you 23 can't make that determination because he's not 24 accounting for the other discrepancies, the other 25 differences that he's introduced in the crash test</p>

<p style="text-align: right;">Page 46</p> <p>1 relative to the subject crash. 2 Q. All right. Well, we haven't even broached 3 that subject yet, and so I'm not talking about that 4 subject. I'm talking about your work and your 5 conclusions. And you just said you couldn't draw 6 conclusions, based upon the discrepancies. And I 7 asked you conclusions about what. And what -- what 8 do you mean, other than your conclusion that 9 Mr. Grimes' cargo hypothesis is not, you know, backed 10 by a scientific methodology? I understand that 11 conclusion.</p> <p>12 What other conclusions were you 13 referencing that you can't make, based upon the crash 14 test?</p> <p>15 MS. CANNELLA: Object to the form of the 16 question. It's, uhm -- sounds to me like you're 17 suggesting that you're saying he can't conclude 18 something, when the testimony is that no one can 19 conclude something. And so --</p> <p>20 MR. HILL: Well, these speaking objections 21 are getting outrageous, Tedra. Just object to the 22 form of the question. And if he can't answer it, he 23 can't answer.</p> <p>24 MS. CANNELLA: Mr. Hill -- 25 MR. HILL: You're only allowed to object</p>	<p style="text-align: right;">Page 48</p> <p>1 test was to explore what type of intrusion would 2 occur without the lift kit on the vehicle. 3 So the point I'm making is that with all 4 these differences, all these variables that have 5 changed between his crash test and the subject crash, 6 you're not going to be able to isolate how that one 7 variable, the lift kit, the right height can make.</p> <p>8 Q. Well, one of the variables between the 9 crash test and the subject crash was the color of the 10 vehicles. That's a variable that existed between the 11 subject crash and the test crash. But we can 12 conclude that the color the vehicles are painted had 13 no relevance to the results of the crash test, 14 correct?</p> <p>15 A. Yeah, the color is not a significant 16 variable in this instance.</p> <p>17 Q. Right. And what did you do to determine 18 whether any of the variables you've mentioned are 19 significant to the crash test?</p> <p>20 A. So, what I'm doing is identifying the -- 21 the differences, how additional variables have been 22 changed, and reporting based on the available 23 materials, what those differences are.</p> <p>24 And from experience, I know that those 25 variables are significant. We know that the amount</p>
<p style="text-align: right;">Page 47</p> <p>1 to the form of the question. You're not allowed to 2 go into a long diatribe speaking -- instructing the 3 witness about the problems with the question in your 4 mind.</p> <p>5 MS. CANNELLA: Mr. Hill, I am allowed to 6 try to make an objection that allows you to correct 7 it. And to the extent you're trying to 8 mischaracterize what he said, I absolutely am allowed 9 to address that. You said --</p> <p>10 MR. HILL: Go ahead --</p> <p>11 MS. CANNELLA: -- that he can't draw 12 conclusions and his report and his testimony is that 13 no one can draw conclusions. That's -- that's 14 misleading.</p> <p>15 MR. HILL: That -- that includes him. And 16 that's what he was talking about. I was asking him 17 about his conclusions. And I was clarifying his 18 answer to the last question, where he said that you 19 can't draw conclusions. And I was asking what 20 conclusions is he not able to draw from it. That was 21 the basis of the question.</p> <p>22 BY MR. HILL:</p> <p>23 Q. So answer, please, if you can.</p> <p>24 A. So the state- -- so it wasn't my crash 25 test, but according to Mr. Grimes the purpose of the</p>	<p style="text-align: right;">Page 49</p> <p>1 of overlap in a crash test is significant. There's a 2 great deal of published test data, research that 3 quantifies how overlap influences intrusions and 4 occupant injuries.</p> <p>5 We also know that weight from, you know, 6 basic physics, basic scientific principles can 7 influence vehicle motion, the dynamics of the 8 vehicle, based on where that weight is placed 9 relative to the center of gravity.</p> <p>10 So these are -- you know, the -- the test 11 was set up to run apparently in a way that was -- 12 replicated the subject crash. But yet I'm pointing 13 out all the ways that it didn't.</p> <p>14 Q. Have you done any work to quantify the 15 impact of either the offset or the weight issues that 16 you just mentioned?</p> <p>17 MS. CANNELLA: Objection, asked and 18 answered.</p> <p>19 THE WITNESS: So I think if Mr. Grimes 20 wants to draw significant conclusions about the 21 influence of the lift kit on -- on this subject 22 crash, he needed to do that work. He needed to run 23 either additional tests or run the tests in a 24 different way that more closely replicated the 25 subject crash.</p>

<p style="text-align: right;">Page 50</p> <p>1 BY MR. HILL:</p> <p>2 Q. Okay. Speaking of that, how would you 3 have ballasted the Ford Escape, if you were the 4 person directing the test?</p> <p>5 MS. CANNELLA: Objection, foundation, I 6 guess.</p> <p>7 THE WITNESS: So, I highlight later in my 8 report that we know -- we -- we -- we know who the 9 occupants were. We can identify the weights of the 10 occupants. So, for example, the -- the ballasting 11 for the front row could have represented Santana, 12 Kelly and Joshua Bryson's weights.</p> <p>13 We know Cohen Bryson's weight. We know 14 the car seat weight. So all of those could have been 15 represented much more accurately with ballast than -- 16 than was actually performed.</p> <p>17 BY MR. HILL:</p> <p>18 Q. And how would you do that?</p> <p>19 A. So there are more ballasting methods you 20 can use. For example, for the occupants you can 21 use -- there are water ballast tanks that can 22 represent the human form that could be used. Or an 23 ATD could be used.</p> <p>24 Q. What additional modifications you would -- 25 would you make to the -- to the test Escape with</p>	<p style="text-align: right;">Page 52</p> <p>1 fuel to the fuel tank or Stoddard solvent to the -- 2 to the fuel tank.</p> <p>3 Q. Anything else?</p> <p>4 A. Those are some examples of the process 5 that could have been followed that would have more 6 accurately represented the weight in the crash test.</p> <p>7 Q. All right. With regard to the offset and 8 overlap, what would you change, if you were the 9 person directing the crash test?</p> <p>10 A. So, some significant effort was made to 11 align the Escape to the guide rail. So the tolerance 12 of the guidance system for the F-250 was presumably 13 understood by the -- by the Exponent test engineer. 14 So that would be where I would start, is 15 understanding the accuracy and tolerance -- lateral 16 tolerance from the guide system to see how that 17 would -- how that could possibly affect the actual 18 impact offset.</p> <p>19 Q. All right. And once you understood that 20 guidance process, what changes would you make to it?</p> <p>21 A. I haven't been to the test site. I don't 22 know all the details in the guidance system. It's 23 not -- that's something, at least, beyond my ability 24 to answer at this stage.</p> <p>25 THE REPORTER: I'm sorry. I need you to</p>
<p style="text-align: right;">Page 51</p> <p>1 regard to the ballasting?</p> <p>2 MS. CANNELLA: Asked and answered.</p> <p>3 MR. HILL: No, it's what additional. 4 He -- he just said he'd add weight for the passengers 5 and so forth.</p> <p>6 BY MR. HILL:</p> <p>7 Q. Would you do anything else?</p> <p>8 A. Well, if the purpose of the test was to 9 replicate the subject crash as closely as possible 10 with only the variable off, right, then you would 11 also represent the cargo.</p> <p>12 Q. And how would you represent the weight of 13 the cargo in your test?</p> <p>14 A. Well, by placing the objects that were 15 clearly identified. So we know the Shop Vac, we know 16 the camping chairs. We have images from the scene 17 and subsequent inspections that -- that help to 18 locate that luggage in the cargo space and on the 19 second row seat.</p> <p>20 So you would -- the approach that you 21 could take would be to match as closely as possible 22 with the available weight information the subject 23 crash and then see where -- where the weight 24 deficiency was. And then establish what additional 25 ballasting, if any, was necessary, including adding</p>	<p style="text-align: right;">Page 53</p> <p>1 repeat what you just said, sir.</p> <p>2 THE WITNESS: Yeah, that's a -- that's a 3 question I can't answer, because I haven't sufficient 4 information on -- on the guidance system used, other 5 than it failed to hold the intended offset.</p> <p>6 BY MR. HILL:</p> <p>7 Q. Are you aware of any guidance system in 8 your experience that is able to hold a specific 9 offset?</p> <p>10 A. I'm aware of partial overlap tests being 11 conducted, where there is a tolerance related to 12 those overlaps and those testing agencies are able to 13 control those overlaps for their tests.</p> <p>14 Q. Do you know what the tolerance levels are 15 for those tests?</p> <p>16 A. Uhm, no, I -- I -- I haven't prepared for 17 that question today. I know that they -- they do 18 hold tol- -- tolerances for valid tests, but off the 19 top of my head I can't figure those.</p> <p>20 Q. Do you know the tolerance level that is 21 applicable to the crash test in this case?</p> <p>22 A. Well, based on my analysis of an 23 additional four inches of offset, what I can see is 24 that the error is somewhere around 36 percent. That 25 is -- that's a significant error relative to the</p>

<p>1 original stated objective of the offset of 10.8 2 inches -- of about 10.8 inches.</p> <p>3 Q. What would you consider to be a -- an 4 appropriate tolerance for the offset in this crash 5 test?</p> <p>6 A. I think, in this instance, you'd be 7 looking at trying to achieve something significantly 8 lower than 34 percent. Again, what I would 9 reference, if it was me conducting the test, would be 10 standard industry offset test procedures and the 11 acceptable tolerance that they allow to still have a 12 test that's consistent with their intended procedure. 13 And I would reference that offset. I don't have that 14 for you today, but that was what -- that is what I 15 would reference.</p> <p>16 Q. All right. Let's talk about the parking 17 brake. If I understand, one of your opinions is that 18 the Escape's parking brake was possibly engaged in 19 the test. Were you able to read the deposition of 20 Charlie Crosby, prior to this deposition?</p> <p>21 A. Uhm, I have reviewed some of it. I 22 believe he stated that the parking brake was 23 disengaged.</p> <p>24 Q. Do you have any reason to dispute his 25 testimony?</p>	<p>Page 54</p> <p>1 upon impact?</p> <p>2 A. So, it, uh -- it depends on the time of 3 the duration allowed for the F-250 to strike the rear 4 wheels. And that -- and the distance that's traveled 5 during that period. So it would depend on the 6 engagement of the structures. So it would be 7 different between the -- the subject crash and crash 8 test, because there's a full line of difference.</p> <p>9 So there -- again, that's -- that's not a 10 straightforward question to answer. But the point 11 is, is that, again, if the parking brake was engaged, 12 it is inconsistent with the subject crash.</p> <p>13 Q. Yeah, my question was just about the crash 14 test, not about the subject crash. Because we -- we 15 don't believe the subject crash -- the parking brake 16 was not engaged, at the time of the subject crash, 17 correct?</p> <p>18 A. That's my understanding.</p> <p>19 Q. Right. So I'm just asking about the crash 20 test, all right? And the question is, in the crash 21 test, if the parking brake had been engaged, would it 22 prevent the rear wheels of the test Escape from 23 rolling upon impact?</p> <p>24 A. It's, uhm -- it certainly could influence 25 either the rolling or the rate of rolling.</p>
<p>Page 55</p> <p>1 A. Uhm, the process of documenting the test 2 with the photographs showing engagement and then 3 disengaging it seems unusual to me. In the sense 4 that if you're trying to run a test with parking 5 brake disengaged, why would you engage it at all and 6 run the possibility that someone forgets to disengage 7 it?</p> <p>8 Q. Do you have any evidence that the parking 9 brake was engaged, other than the photograph 10 Mr. Crosby took prior to the test?</p> <p>11 A. No, that's the evidence I'm utilizing to 12 say it's possibly engaged during the test.</p> <p>13 Q. How would the parking brake, if it was 14 engaged, add resistance to forward motion?</p> <p>15 A. Well, you have braking applied to the 16 vehicle that wasn't the case during the subject 17 crash.</p> <p>18 Q. How would that manifest itself? Would -- 19 would the rear wheels of the Escape skid during the 20 test?</p> <p>21 A. Sorry, you're asking a hypothetical 22 question I'm not sure when, in relation to what.</p> <p>23 Q. Yeah, let me ask it another way. If the 24 parking brake were engaged during the test, would it 25 prevent the rear wheels of the Escape from rolling</p>	<p>Page 55</p> <p>1 Q. And how would it influence it?</p> <p>2 A. Well, you have braking applied to the rear 3 axle versus in a disengaged state no braking.</p> <p>4 Q. So would the parking brake prevent the 5 rear wheels of the Escape from rolling upon impact?</p> <p>6 A. I think I've just answered your question.</p> <p>7 Q. Well --</p> <p>8 A. You need --</p> <p>9 Q. Go ahead.</p> <p>10 A. So they would either affect -- either 11 prevent rolling or change the rolling rate --</p> <p>12 Q. I --</p> <p>13 A. -- or the resistance to rolling.</p> <p>14 Q. And how would they change the rolling 15 rate?</p> <p>16 A. You now have additional braking effect on 17 the rear wheels. So the force to push a vehicle with 18 braking versus without braking is -- is different.</p> <p>19 Q. Have you done anything to determine how 20 the parking brake being engaged would have changed 21 the rolling rate of the rear wheels in the crash 22 test?</p> <p>23 A. So, as I've stated previously, my 24 objective was to highlight inconsistencies between a 25 crash test and the subject crash. This is</p>

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<p>1 potentially another one.</p> <p>2 Q. So the answer is no, you haven't done</p> <p>3 anything to determine what the change in the rolling</p> <p>4 rate would be of the rear wheels in the test, if the</p> <p>5 parking brake had been engaged?</p> <p>6 MS. CANNELLA: Object to the form of the</p> <p>7 question. Misstates the testimony.</p> <p>8 BY MR. HILL:</p> <p>9 Q. Go ahead.</p> <p>10 A. The -- the emphasis is on the test</p> <p>11 engineer to ensure that the stated objective is</p> <p>12 satisfied. My -- my objective in -- in looking at</p> <p>13 the test data and writing this report wasn't to try</p> <p>14 and determine the difference of all of these</p> <p>15 variables. That is -- it's certainly beyond the</p> <p>16 scope of work. And the point simply is that that is</p> <p>17 another potential difference between the crash test</p> <p>18 and the subject crash.</p> <p>19 Q. Have you performed any calculations to</p> <p>20 determine how this difference between the subject</p> <p>21 crash and the test crash would have impacted the test</p> <p>22 crash?</p> <p>23 A. Sorry, I didn't follow that question. Can</p> <p>24 you repeat it, please?</p> <p>25 Q. Sure. You just pointed out that another</p>	<p>1 MS. CANNELLA: Object to the form of the</p> <p>2 question. He just described his analysis.</p> <p>3 BY MR. HILL:</p> <p>4 Q. Go ahead.</p> <p>5 MS. CANNELLA: Misstates his testimony.</p> <p>6 THE REPORTER: I'm sorry, what was the</p> <p>7 last part of your objection, Ms. Cannella?</p> <p>8 MS. CANNELLA: Misstates his testimony.</p> <p>9 BY MR. HILL:</p> <p>10 Q. Go ahead.</p> <p>11 A. Yeah, the -- the opinion is -- is that if</p> <p>12 the parking brake was engaged during the crash test,</p> <p>13 that is inconsistent with the subject crash.</p> <p>14 Q. I'm going to move to strike as</p> <p>15 unresponsive.</p> <p>16 Let me ask it this way. Please describe</p> <p>17 for me all testing, calculations or simulations that</p> <p>18 you have done in connection with your analysis of the</p> <p>19 crash test.</p> <p>20 A. So, I've described my observations, my</p> <p>21 opinions in the course of my report. I provided you</p> <p>22 my work product. So, you're welcome to review that.</p> <p>23 That's a very broad question. I'm not going to try</p> <p>24 and answer that, when we can go through both my</p> <p>25 report and my work product.</p>
<p style="text-align: right;">Page 59</p> <p>1 potential difference between the subject crash and</p> <p>2 the test crash is the potential for the parking gate</p> <p>3 (sic) to be -- having been engaged during the test</p> <p>4 crash.</p> <p>5 Have you performed any simulations,</p> <p>6 calculations, analysis or testing to determine the</p> <p>7 impact of this difference between the test crash and</p> <p>8 the subject crash on the test crash?</p> <p>9 A. I believe I already provided that answer,</p> <p>10 but it's not -- in forming the opinions I have in</p> <p>11 this report, I am trying to understand the veracity,</p> <p>12 accuracy of the crash test and whether or not</p> <p>13 meaningful conclusions can be drawn compared to the</p> <p>14 subject crash.</p> <p>15 I'm not trying to isolate and identify the</p> <p>16 contribution or the differences in all of these</p> <p>17 variables. That -- that is something that should</p> <p>18 have been considered, when performing the crash test</p> <p>19 and making sure that only one variable was being</p> <p>20 changed during the crash test.</p> <p>21 Q. So can we agree the answer is no, you've</p> <p>22 not performed any testing, calculations, simulation</p> <p>23 or analysis to determine the impact of the parking</p> <p>24 brake on the level of crush or intrusion that</p> <p>25 occurred in the test?</p>	<p style="text-align: right;">Page 61</p> <p>1 Q. Is it fair to say that all testing,</p> <p>2 calculations, simulations, and/or analysis that</p> <p>3 you've done in connection with analyzing the crash</p> <p>4 test are contained within your report?</p> <p>5 A. Uhm, certainly my -- my report contains my</p> <p>6 opinions and findings of that analysis and my work</p> <p>7 product and the file that you have contains any</p> <p>8 associated and supported work.</p> <p>9 Q. Great. Turning now to the sunroof. Do</p> <p>10 you know whether the Escape used in Mr. Buchner's</p> <p>11 simulation had a sunroof?</p> <p>12 A. I, uhm -- I will defer you to Mr. Buchner</p> <p>13 on that question.</p> <p>14 Q. Okay. So you don't know, as we sit here</p> <p>15 today, whether it did or not -- did not?</p> <p>16 A. I have not spent a great deal of time</p> <p>17 understanding the simulation that Mr. Buchner was</p> <p>18 performing.</p> <p>19 Q. Okay. You mentioned before that the</p> <p>20 height of the crash F-250 was higher than the height</p> <p>21 of the test F-250. We can agree on that, correct?</p> <p>22 A. That's right. The height in the subject</p> <p>23 crash was higher.</p> <p>24 Q. Have you done any work to determine the</p> <p>25 impact of the F-250 height difference on the roof</p>

<p style="text-align: right;">Page 62</p> <p>1 crush experienced in the test Escape?</p> <p>2 A. I've made observations on the deformation</p> <p>3 patterns of the crash test relative to the -- the</p> <p>4 subject crash. And I'm simply stating, because maybe</p> <p>5 Mr. Grimes wasn't aware, that roof structures do</p> <p>6 differ, maybe more than he understands, between</p> <p>7 sunroof vehicles and none sun- -- and nonsunroof</p> <p>8 vehicles.</p> <p>9 Q. Have you done any work to determine the</p> <p>10 impact of the height of the F-250 in the test crash</p> <p>11 on the extent of the roof crush experienced by the</p> <p>12 test Escape?</p> <p>13 A. As compared, I think you can see it on</p> <p>14 page 9 -- Image 9. I looked at the change in roof</p> <p>15 deformation between the crash test and the exemplar</p> <p>16 Escape.</p> <p>17 Q. Okay.</p> <p>18 A. And you can see that there is -- sorry,</p> <p>19 the crash test and the subject crash. And you can</p> <p>20 see that there's bulging in the roof in the crash</p> <p>21 test.</p> <p>22 Q. And this is Image 9 of your report; is</p> <p>23 that correct?</p> <p>24 A. That's -- that's right.</p> <p>25 Q. And that's what I've put on the screen?</p>	<p style="text-align: right;">Page 64</p> <p>1 the subject crash and the roof crush in the test</p> <p>2 crash?</p> <p>3 A. Uhm, I'm pointing out that roof structures</p> <p>4 vary between sunroof and nonsunroof vehicles. And so</p> <p>5 if you're trying to replicate the subject crash, it</p> <p>6 would be advisable to use a body structure that is</p> <p>7 the same, which has a sunroof. This crash test was</p> <p>8 conducted with a nonsunroof body and we know that</p> <p>9 sunroof structures are reinforced relative to</p> <p>10 nonsunroof structures.</p> <p>11 Q. Did you do any work to determine the</p> <p>12 impact of the difference in height between the test</p> <p>13 F-250 and the subject F-250 on the roof crush</p> <p>14 exhibited in the test Escape?</p> <p>15 A. Uhm, I'm pointing out that the roof</p> <p>16 strength and stiffness in a nonsunroof body structure</p> <p>17 is lower than with a sunroof body structure. So it's</p> <p>18 another example of the crash test not matching or</p> <p>19 being inconsistent with the subject crash.</p> <p>20 Q. Move to strike as unresponsive.</p> <p>21 I'll ask it again. Did you do any work to</p> <p>22 determine the impact of the difference in heights</p> <p>23 between the subject F-250 and the crush -- crash</p> <p>24 F-250 on the level of roof crush exhibited by the</p> <p>25 test Escape?</p>
<p style="text-align: right;">Page 63</p> <p>1 A. Correct.</p> <p>2 Q. And that is a comparison between the crash</p> <p>3 test and an exemplar Escape roof comparison.</p> <p>4 Under -- I don't understand that -- that description</p> <p>5 of the image. Can you explain that for me?</p> <p>6 A. Yeah, that's an overlay of the point cloud</p> <p>7 data, I think, of all three vehicles in Exemplar A,</p> <p>8 the subject crash and the crash test. And the --</p> <p>9 what you're seeing is the surface of the roof from</p> <p>10 the crash test and the bulging of the roof pattern,</p> <p>11 which is not exhibited on the subject crash.</p> <p>12 Q. And the exemplar Escape that you used, did</p> <p>13 it have a sunroof or did it -- or not?</p> <p>14 A. Well, the -- the roof height and surface</p> <p>15 doesn't change significantly between the sunroof and</p> <p>16 nonsunroof.</p> <p>17 Q. Well, what was the purpose of adding a --</p> <p>18 a third vehicle to this image, the exemplar Escape?</p> <p>19 I don't understand.</p> <p>20 A. Simply, I compared an overlay of the scan</p> <p>21 data and observed that the roof deformation on the</p> <p>22 crash test was greater than in the subject crash.</p> <p>23 Q. And did you do any work to determine</p> <p>24 whether the height of the F-250 in the test crash was</p> <p>25 a factor in the difference between the roof crush in</p>	<p style="text-align: right;">Page 65</p> <p>1 MS. CANNELLA: Object to the form of the</p> <p>2 question. Confusing and he's testified about this</p> <p>3 already.</p> <p>4 MR. HILL: He hasn't answered the</p> <p>5 question. It's a yes or no question. Have you done</p> <p>6 any work in that regard?</p> <p>7 MS. CANNELLA: Same objections.</p> <p>8 THE WITNESS: I mean, I comment on the</p> <p>9 level of roof deformation between the subject crash</p> <p>10 and the crash test vehicle.</p> <p>11 BY MR. HILL:</p> <p>12 Q. And have you determined the impact of the</p> <p>13 height of the subject F-250, as compared to the test</p> <p>14 crash F-250 with regard to your observations of the</p> <p>15 difference in the roof crush between the test Escape</p> <p>16 and the subject Escape?</p> <p>17 A. So, I've highlighted the -- the</p> <p>18 differences in the deformation pattern of the crash</p> <p>19 test Escape versus the subject Escape. Again, we</p> <p>20 know there's a difference in the body stiffness. In</p> <p>21 terms of how it would influence the results of the</p> <p>22 crash test, I've not tried to isolate one of many</p> <p>23 variables that were changed.</p> <p>24 Q. Great. Have you done -- expanding on the</p> <p>25 answer you just gave. Have you done any work,</p>

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<p>1 whether it be testing, calculations, simulations, 2 analysis, to isolate the variable of a sunroof versus 3 not having a sunroof on the results of the crash 4 test?</p> <p>5 A. So, again, there's a -- an example here of 6 the way the crash test was run that is inconsistent 7 with the aims of the crash test as stated by the 8 crash engineer. And I've not attempted to understand 9 any contribution that may have arisen from that 10 variable being changed.</p> <p>11 Q. Thank you. Do you know whether the lack 12 of a sunroof in the test Escape increased the crush 13 experienced by the test Escape?</p> <p>14 A. I know from my experience that sunroof 15 body structures are both stiffer and stronger based 16 on prior vehicles I've worked on. And so, therefore, 17 by testing a nonsunroof Escape, you have a slightly 18 softer structure, based on the geometry of the 19 sunroof reinforcement versus the baseline roof bows.</p> <p>20 Q. Have you quantified this difference?</p> <p>21 A. I'm simply pointing out that there is a 22 difference and it would add yet another variable to 23 the difference in the subject crash and the crash 24 test.</p> <p>25 Q. Have you quantified the difference?</p>	<p>1 sunroof roof structures are stiffer and stronger than 2 nonsunroof roof structures. And if you -- the 3 objective of the crash test was simply to isolate the 4 height difference, where everything else is being 5 matched as closely as possible, then why wasn't a 6 sunroof Escape used in the crash test?</p> <p>7 MR. HILL: All right. I think it's time 8 we need to take another break. Let's go off the 9 record for about five to ten minutes.</p> <p>10 THE VIDEOGRAPHER: Okay. Off the record,</p> <p>11 10:51.</p> <p>12 (Recess was taken from 10:51 a.m. to 11:16 13 a.m.)</p> <p>14 THE VIDEOGRAPHER: Back on the record.</p> <p>15 The time, 11:16.</p> <p>16 BY MR. HILL:</p> <p>17 Q. Mr. Roche, do you know whether vehicle 18 manufacturers are required to run separate compliance 19 tests for rear impacts for the same model vehicle, 20 comma, one with a sunroof, comma, one without?</p> <p>21 A. No. In my experience, compliance tests 22 are certainly performed for roof crush and also for 23 overall body stiffness. Testing is conducted with 24 both, with and without sunroof. As to 301, I -- I'm 25 not sure.</p>
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<p>1 A. I've identified that there is additional 2 roof deformation in the crash test than the subject 3 crash. Beyond that, no.</p> <p>4 Q. You say -- I'm sorry. Did you say beyond 5 that, no? I couldn't hear your response, I'm sorry.</p> <p>6 A. That's right. I just -- the image you 7 have on the screen, I'm showing -- I quantified that 8 the roof bowed for the crash test, relative to the 9 subject crash.</p> <p>10 Q. Okay. And that's the extent of your work 11 or efforts with regard to determining whether the 12 lack of a sunroof increased the crush in the test?</p> <p>13 A. So my objective here was to identify 14 whether or not the crash test was run in a consistent 15 manner to the subject crash. Here is another example 16 where that wasn't the case.</p> <p>17 Q. Right. That's not my question. I 18 understand that. My question was, have you done 19 anything to quantify or explain your opinion that -- 20 no, scratch that. I'll go back to my original 21 question.</p> <p>22 Have you done anything to quantify whether 23 the lack of a sunroof -- sunroof increased the crush 24 in the test?</p> <p>25 A. I am simply providing the opinion that</p>	<p>1 Q. Are you aware of tests beyond 301 that 2 actually require the manufacturer to perform a test 3 both with and without a sunroof?</p> <p>4 A. I'm sorry. Can you just ask that 5 question, again, please?</p> <p>6 Q. Sure. I believe you said you're not sure 7 if 301 requires both tests, as I've described, right?</p> <p>8 A. Right.</p> <p>9 Q. And you made a general reference to 10 testing with and without. And I'm saying, are you 11 aware of any other compliance test that's out there 12 that does require the manufacturer to test both a 13 sunroof model and a nonsunroof model?</p> <p>14 A. And the example I gave you was roof crush, 15 which is 216A.</p> <p>16 Q. 216A; is that correct?</p> <p>17 A. That's right.</p> <p>18 Q. And it's your understanding that the 19 manufacturer must test both the sunroof and the 20 nonsunroof model to comply with 216A?</p> <p>21 A. Correct. When I was writing compliance 22 reports for Jeep for roof crush performance, we would 23 always run both configurations and submit compliance 24 reports. But I was -- I was not responsible for 25 compliance to 301, per se, because that's a -- that's</p>

<p style="text-align: right;">Page 70</p> <p>1 a vehicle test, not a body system test.</p> <p>2 MS. CANNELLA: Can I ask a question, if</p> <p>3 you're done, Mr. Roche, just on the record? Is there</p> <p>4 anybody else attending the deposition by video or</p> <p>5 phone or anything aside from you, Mr. Hill for</p> <p>6 Defendants?</p> <p>7 MR. HILL: No.</p> <p>8 MS. CANNELLA: Okay. Thank you.</p> <p>9 BY MR. HILL:</p> <p>10 Q. While you were in the automotive industry,</p> <p>11 you mentioned you were involved with compliance</p> <p>12 testing. Were you ever involved in any testing</p> <p>13 outside of the compliance framework?</p> <p>14 A. Yeah, absolutely.</p> <p>15 Q. All right. Can you just describe that for</p> <p>16 me briefly, just so I understand it.</p> <p>17 A. Yes. By compliance testing, I mean</p> <p>18 specific to FMVSS. But there's plenty of other</p> <p>19 testing that is conducted for both crashworthiness</p> <p>20 and other test requirements that is -- that is</p> <p>21 considered noncompliance -- or it's not that it's</p> <p>22 noncompliant, it's that it's not a compliance test.</p> <p>23 Q. Right. And in all of those tests that you</p> <p>24 performed that relate to vehicle performance, did you</p> <p>25 comply with the procedures that related to compliance</p>	<p style="text-align: right;">Page 72</p> <p>1 example. Although, NCAP is administered by NHTSA,</p> <p>2 you don't have to satisfy any sort of star rating for</p> <p>3 NCAP. NCAP is a consumer information test.</p> <p>4 So manufacturers -- some of the ones I</p> <p>5 would work with -- would run tests to see if they</p> <p>6 were meeting their objectives relative to</p> <p>7 nonregulatory test modes. So that when the</p> <p>8 regulatory body tested their vehicle, they knew --</p> <p>9 they would know what sort of performance they would</p> <p>10 achieve.</p> <p>11 Q. Right. And NCAP stands for New Car</p> <p>12 Assessment Program?</p> <p>13 A. That's correct.</p> <p>14 Q. All right. And are you saying it -- it</p> <p>15 doesn't deal at all with the compliance with</p> <p>16 regulatory standards?</p> <p>17 A. NCAP is -- is a testing that goes above</p> <p>18 and beyond FMVSS. So although the tests may look</p> <p>19 similar, the tests aren't meant to be in some</p> <p>20 instances identical. But complying with 208 and your</p> <p>21 NCAP star rating are two different things.</p> <p>22 Q. Right. So 208 would be a 30-mile-per-hour</p> <p>23 test, where like NCAP might be a 35-mile-per-hour</p> <p>24 test?</p> <p>25 A. 208 is a whole host of different tests --</p>
<p style="text-align: right;">Page 71</p> <p>1 testing?</p> <p>2 A. I'm -- so, I think I understood your</p> <p>3 question correctly. When -- the way compliance</p> <p>4 testing works in the auto industry is certainly for</p> <p>5 Federal Regulations. It is a self-compliance system.</p> <p>6 For European regulations, it is not. But -- but as</p> <p>7 part of self-compliance, you have to run the tests</p> <p>8 according to the test procedure, in order to have a</p> <p>9 valid compliance report.</p> <p>10 Q. Right. And I -- I'm referencing</p> <p>11 the -- what you called, I think, noncompliance</p> <p>12 testing, the vehicle performance testing, testing</p> <p>13 that would be done by automakers, not for compliance</p> <p>14 purposes, but for performance purposes. You said you</p> <p>15 had experience with the noncompliance-type testing.</p> <p>16 Did I understand that correctly?</p> <p>17 A. That's correct, yes.</p> <p>18 Q. And give me some example of the</p> <p>19 noncompliance/vehicle performance related testing</p> <p>20 that you were involved with.</p> <p>21 A. Yes, so better term is nonregulatory. So</p> <p>22 there's lots of tests that I was involved in that was</p> <p>23 nonregulatory tests. Meaning, that those are tests</p> <p>24 you still wanted to satisfy for a variety of reasons.</p> <p>25 An example related to crash would be NCAP, for</p>	<p style="text-align: right;">Page 73</p> <p>1 Q. Right.</p> <p>2 A. -- it's not just one test.</p> <p>3 Q. Right. But you would agree, I mean -- so,</p> <p>4 NCAP might be performance testing that's not required</p> <p>5 by regulation, but you would follow the procedure for</p> <p>6 the FMVSS standard that related to that testing, is</p> <p>7 that what you're saying?</p> <p>8 A. No. I was just describing some</p> <p>9 nonregulatory test modes from -- that I have been</p> <p>10 involved with.</p> <p>11 Q. Okay.</p> <p>12 A. You know, so, uhm, maybe slightly easier</p> <p>13 explanation, if you switch to IIHS, which is the same</p> <p>14 thing. IIHS conducts testing on vehicles. And</p> <p>15 that's entirely nonregulatory. They -- they perform</p> <p>16 tests and they inform the public about performance of</p> <p>17 the vehicles, according to their tests. And they</p> <p>18 produce test protocols that are available to explain</p> <p>19 to manufacturers who are interested, how they will</p> <p>20 conduct their tests when they -- if they elect to buy</p> <p>21 and test their vehicles.</p> <p>22 So manufacturers typically will conduct</p> <p>23 their own testing according to the IIHS test</p> <p>24 standards. And they will follow, obviously, the</p> <p>25 protocol that IIHS would use. And that way they can</p>

<p style="text-align: right;">Page 74</p> <p>1 get a good indication of whether -- how that vehicle 2 will perform to the IIHS test. Same applies for 3 NCAP.</p> <p>4 Q. Do you know whether any IIHS procedures 5 for conducting their testing were not complied with 6 by Exponent and the tash cresh (sic) in this case?</p> <p>7 A. So, these crash tests that were conducted 8 was trying to replicate the subject crash. And the 9 subject crash wasn't similar to any IIHS test that 10 I'm aware of. And, therefore, there wouldn't be an 11 IIHS procedure that encompassed the entire test.</p> <p>12 Q. And is the same thing true for procedures 13 related to FMVSS testing?</p> <p>14 A. So, FMVSS, which is a compliance test, 15 there is a fuel system integrity test. There is a 16 well-defined procedure on how to run a fuel system 17 integrity test. Again, that test is different from 18 the subject crash. But it is a good reference point 19 on how to conduct a high-speed, rear-impact test.</p> <p>20 Q. Are there any FMVSS required regulatory 21 tests that are similar to the subject crash?</p> <p>22 MS. CANNELLA: Object to the form of the 23 question. Similar is a vague word.</p> <p>24 MR. HILL: He used the term "similar" in 25 his last answer. So I'm using it in the way he used</p>	<p style="text-align: right;">Page 76</p> <p>1 A. Yeah, load cases, crash tests. 2 Q. All right. And in any of those load cases 3 or crash tests involving rear impact, were any of 4 those performed without Stoddard solvent in the gas 5 tank?</p> <p>6 A. Yeah, off the top of my head I -- I can't 7 answer that. This is some time ago. You know, I'd 8 refer you to my earlier answer, which is -- you know, 9 even in -- even in due care load cases, you're still 10 trying to relate either back to prior incidents that 11 the manufacturers' learned from or some sort of 12 established test procedure.</p> <p>13 You know, it's very infrequent that 14 vehicles are impacted with an empty fuel tank. So 15 fuel is usually -- and fuel leakage is -- is a big 16 concern. And so representing a fuel substitute that 17 allows you to monitor the potential for fuel leakage 18 is -- is very typical in my experience.</p> <p>19 Q. Fuel leakage was not an issue in the 20 subject crash, correct?</p> <p>21 A. Uhm, yes. I don't remember that being 22 noted on the police report or any of the scene 23 images.</p> <p>24 Q. And I believe your answer to the last 25 question was that you're not -- you can't recall, as</p>
<p style="text-align: right;">Page 75</p> <p>1 it.</p> <p>2 MS. CANNELLA: Just stating my objection.</p> <p>3 BY MR. HILL:</p> <p>4 Q. Go ahead.</p> <p>5 A. So, the closest FMVSS is 301 to the 6 subject crash, but -- but I'm not suggesting it's 7 identical.</p> <p>8 Q. Okay. Were you ever involved in any -- 9 and correct me if I use the wrong terms, I'm trying 10 to use what you stated -- nonregulatory 11 performance-related crash testing that involved 12 analysis of rear-impact collisions?</p> <p>13 A. Uhm, so in addition to nonregulatory 14 tests, there are, uhm -- some manufacturers have -- 15 do carry load -- load cases or test modes. So these 16 are -- these are tests that are not required by any 17 government agency and are not going to be used for 18 informing the public, but the manufacturer has 19 established that their own internal requirements 20 require them to do additional testing. And so I have 21 been involved in rear impact load cases and tests, 22 which are not compliance for nonregulatory tests, 23 yes.</p> <p>24 Q. And you say rear impact load cases, is 25 that -- load test. Was that the term you used?</p>	<p style="text-align: right;">Page 77</p> <p>1 you sit here today, whether any of the testing you 2 just described that you were involved with involved a 3 test that did not include Stoddard solvent; is that 4 correct?</p> <p>5 A. Yeah. I can't remember the detail of any 6 fuel care --</p> <p>7 Q. Okay.</p> <p>8 A. -- test I've been involved with. But what 9 I did state very clearly was that typically, 10 especially rear impacts, fuel system leakage is a 11 concern. And oftentimes that was a focus of any 12 testing that was conducted. Therefore, the fuel was 13 represented, so that could be checked.</p> <p>14 Q. Sure. I'm going to attempt to share -- 15 whoops. All right. Can you see my shared screen?</p> <p>16 A. Yes, I can.</p> <p>17 MR. HILL: All right. This comes from the 18 material that you presented -- or produced to us or 19 that Ms. Cannella produced to us. And I believe it's 20 just entitled PowerPoint presentation. But it's 21 labeled as Bryson 9643 through 9646. And I'd like to 22 mark this as whatever our next exhibit is.</p> <p>23 (Defendant's Exhibit No. 3 was marked for 24 identification.)</p> <p>25 BY MR. HILL:</p>

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<p>1 Q. Is this a PowerPoint presentation from 2 your files in this case?</p> <p>3 A. Yeah, I think the name of the document is 4 Scan Comparison.</p> <p>5 Q. All right. Sorry if I -- it did -- I just 6 was reading from the top, and I guess it didn't show 7 it. Sorry.</p> <p>8 All right. So, the first page of this we 9 have the subject and an exemplar placed over each 10 other from a number of different angles. And I 11 assume the purpose of this is just to show that the 12 subject wheelbase did not change after the subject 13 accident; is that fair?</p> <p>14 A. That's -- that's right. That was the 15 point of that image showing the -- obviously, the 16 subject vehicle was on a hoist. So you -- you've got 17 a slight difference in the wheel positions there. 18 And the alignment is based on the body, the undamaged 19 body.</p> <p>20 Q. Sure. And we've already talked about the 21 next page, where you have the roof panel bowing 22 figure or image that was in your report.</p> <p>23 A. Yes.</p> <p>24 Q. Is that the same image? Am I correct 25 about that?</p>	<p>1 Q. -- that correct?</p> <p>2 A. These scans were taken post-crash, so it's 3 the static deformation, that's correct.</p> <p>4 Q. Right. And you're saying that the crash 5 test deformation is the image on the left?</p> <p>6 A. That's correct, yes.</p> <p>7 Q. And it shows a 65-degree angle there. 8 What is that ang- -- what does that 65 degrees 9 represent?</p> <p>10 A. That is the seat back relative to 11 horizontal plane.</p> <p>12 Q. All right. And is that to represent where 13 the seat back was moved during the test crash?</p> <p>14 A. No. So, it shows that the seat back angle 15 is largely unchanged between the crash test seat and 16 the exemplar seat. So the exemplar seat, as you can 17 see, is almost parallel. Seat back angle is almost 18 parallel to the dotted line, which is the crash test 19 seat back angle.</p> <p>20 Q. Gotcha. And then the figure on the right 21 is showing the static position of the subject Escape 22 seat, correct?</p> <p>23 A. That's correct, yeah.</p> <p>24 Q. Okay.</p> <p>25 A. You can see that that angle now is more</p>
<p>1 A. Right.</p> <p>2 Q. And then you also have a exemplar 3 wheelbase compared to the crash test wheelbase 4 showing a 5-inch reduction in the wheelbase?</p> <p>5 A. Yes, about five inches.</p> <p>6 Q. Okay. Yeah, I'm sorry, about.</p> <p>7 All right. And then if we go ahead to 8 what's labeled as Bryson 9646. This doesn't really 9 have much of an explanation. I think I understand 10 what it means. But could you explain what these two 11 images represent?</p> <p>12 A. Yes. So this -- this image is actually in 13 my report. It's Image 7.</p> <p>14 Q. Right.</p> <p>15 A. So, it's entitled "Static Seat Angle 16 Comparison." So here on the left, you've got the 17 point cloud from the crash test overlaid with the 18 subject. Sorry, the crash test overlaid with the 19 exemplar Escape data. On the right you have the 20 subject Escape overlaid with the exemplar. And I'm 21 simply trying to compare the amount of seat back 22 deformation.</p> <p>23 Q. And this is the static deformation from 24 after both crashes; is --</p> <p>25 A. That's right, it's --</p>	<p>1 than 90 degrees to the horizontal, as shown in the -- 2 in the crash vehicle.</p> <p>3 Q. Great. Would you agree that the rear seat 4 back was deformed in the crash test?</p> <p>5 A. Uhm, so I think I'm saying that there was 6 some translation of the seat back and the seat in the 7 crash test.</p> <p>8 Q. And how is translation different from 9 deformed?</p> <p>10 A. So, the seat appears to have moved 11 relative to the original position in the X direction, 12 as opposed to the seat back being displaced in a way 13 that would effect the occupant kinematics.</p> <p>14 Q. Do you know how far the seat was displaced 15 in the X direction?</p> <p>16 A. No, I -- I didn't measure that. But, I 17 mean, you can get a sense from that -- that image.</p> <p>18 Q. All right. And are you saying that in the 19 Y direction the seat back did not move at all from 20 its original position?</p> <p>21 A. No, I'm not saying that. You can see from 22 some of the pictures of the seat -- I think we have a 23 picture on page -- on page 6, which is Image 5. You 24 can see the -- the seats appear to have -- so the 25 60/30 split has separated slightly and so there's a</p>

<p style="text-align: right;">Page 82</p> <p>1 little bit of rotation around the X's axis. But in 2 terms of the forward displacement of the seat back, 3 it's certainly significantly less than the subject 4 vehicle.</p> <p>5 Q. But there was some forward seat 6 displacement of the rear back in the crash test?</p> <p>7 A. As -- as -- along with the seat base, yes, 8 this -- as is shown in that image that you have on 9 the screen.</p> <p>10 Q. Okay. So you would agree that something 11 impacted the rear of the second row seat in the crash 12 test and displaced it both in the X and the Y axis?</p> <p>13 A. No, that's not what I'm saying. I'm 14 saying --</p> <p>15 Q. Okay.</p> <p>16 A. -- that the underbody was loaded, the 17 underbody is deformed, as I -- as you mentioned 18 earlier. The wheelbase was actually reduced. And so 19 you've got some translation of -- of the seat and the 20 structure, which the seat is mounted to. And that's 21 depicted in that image.</p> <p>22 Q. So is it your opinion that all of the 23 movement of the second row seat was due to the floor 24 displacement? Am I understanding that correctly?</p> <p>25 A. I'm saying that, uhm, that level of</p>	<p style="text-align: right;">Page 84</p> <p>1 exemplar seat back.</p> <p>2 Q. And you haven't analyzed it, just like 3 Mr. Grimes haven't -- hasn't analyzed it, beyond what 4 you just described to me, is that fair?</p> <p>5 A. That's right.</p> <p>6 MS. CANNELLA: Objection, asked --</p> <p>7 THE WITNESS: This is his test.</p> <p>8 MS. CANNELLA: -- and answered.</p> <p>9 BY MR. HILL:</p> <p>10 Q. Okay. Sure. And you're not an expert in 11 biomechanics, correct?</p> <p>12 A. Yeah, I don't -- I don't offer any 13 biomechanical opinions here.</p> <p>14 Q. And you're not going to offer any opinions 15 in this case regarding the cause of Cohen 16 Bryant -- Cohen's injuries or death, correct?</p> <p>17 A. No. I mean, the opinions I've offered 18 relate to occupant motion when a seat is rotated more 19 than 90 degrees. That would tend to force the 20 occupant towards the back of the front seat. And 21 that's the extent of my opinion.</p> <p>22 Q. Okay. On page -- well, let's first cover 23 a general top- -- general term, "override." How do 24 you define the term "override," in the context of -- 25 of its application to this case?</p>
<p style="text-align: right;">Page 83</p> <p>1 intrusion analysis, I haven't conducted that. I'm -- 2 I am showing you that the relative position of the 3 seat between the crash test and the subject crash -- 4 I'm highlighting the seat back angle between the two. 5 And I'm stating that the entire seat was translated 6 in the -- in the crash test. And -- and 7 that's -- that's the degree of my observations.</p> <p>8 Q. Okay. So just to be -- be clear, and I 9 don't mean to put words in your mouth. I believe I 10 just heard you say that you haven't analyzed the full 11 extent of the cause of the translation of the rear 12 seat in the crash test, other than to say that you 13 observed that at least some of that translation was 14 due to the movement of the floor of the Escape in the 15 crash test, is that fair?</p> <p>16 A. Yeah, that's -- that's part of it. I 17 mean, there was no analysis conducted as part of 18 Grimes' work. He didn't really analyze seat motion 19 significantly, so I haven't been able to form any 20 opinions on his analysis.</p> <p>21 Obviously, if the seat back had been 22 loaded significantly, you would expect the seat back 23 angle to change. And what I'm showing here is that 24 the seat back angle is largely unchanged between the 25 crash test post -- crash test Escape post-test to an</p>	<p style="text-align: right;">Page 85</p> <p>1 MS. CANNELLA: Objection. How is this in 2 the scope of his report and supplemental report?</p> <p>3 MR. HILL: Because he talks in the 4 supplemental report that the crash test did not 5 involve an override situation. It's one of his 6 opinions --</p> <p>7 MS. CANNELLA: Okay.</p> <p>8 MR. HILL: -- in the report. It's 9 directly --</p> <p>10 MS. CANNELLA: I --</p> <p>11 MR. HILL: -- relevant to his opinion.</p> <p>12 MS. CANNELLA: I withdraw my objection.</p> <p>13 BY MR. HILL:</p> <p>14 Q. Go ahead.</p> <p>15 A. Yes. So in an override or underride case, 16 you have a lack of structural engagement between, in 17 this case, the frame rails of the truck and the 18 longitudinals of the SUV.</p> <p>19 So here in the crash test, we can see that 20 the underbody and the longitudinals were engaged, 21 were deformed, were crushed, which is in stark 22 contrast to the subject crash vehicle, where the 23 underbody longitudinals were largely left intact and 24 the floor and upper structure was peeled away from 25 it.</p>

<p style="text-align: right;">Page 86</p> <p>1 Q. And just -- I think I understand it, but 2 just so the jury understands it. What do you mean by 3 "longitudinals"?</p> <p>4 A. So, those are the energy-absorbing 5 structures in a -- in a unibody vehicle, a unitary 6 construction vehicle like a Ford Escape, when you 7 don't have a separate body and frame. So the frame 8 rails effectively are integrated within the body 9 structure. And so those -- there's various industry 10 terms, rails, longitudinals, essentially substitute 11 for the frame rails in a unibody vehicle. The rear 12 bumper beam, the beam structure is attached in line 13 with those rails. And that is the structure that is 14 designed and intended to absorb energy and dissipate 15 energy in a rear-impact event or conversely in the 16 front of the vehicle, front impact.</p> <p>17 Q. Right. So -- just so I make sure I 18 understand, if the -- if there's any engagement 19 between the longitudinals and the bumper of the 20 F-250, that would not qualify as an override?</p> <p>21 A. You can have --</p> <p>22 Q. That --</p> <p>23 A. You can have partial overlap, partial 24 misalignment. In this instance, there was good 25 engagement, there was good structural deformation of</p>	<p style="text-align: right;">Page 88</p> <p>1 opinions on -- on the Cs (ph) brackets in the crash 2 test.</p> <p>3 Q. Well, I'm trying to understand your 4 definition of override. And there's a description of 5 override that you just gave that I'm trying to see if 6 that applies to the subject crash or not.</p> <p>7 So the question is, if there's Cs (ph) 8 impact to the bumper beam in the subject crash, why 9 do you still consider that to be an override 10 condition, as opposed to the crash test, which you've 11 opined is not an override condition? That's what --</p> <p>12 MS. CANNELLA: Objection to --</p> <p>13 MR. HILL: -- that's how it's relevant to 14 your subject opinions.</p> <p>15 MS. CANNELLA: I'll object to that 16 question as to how it relates to subject crash, but 17 not as to it relates to the crash test.</p> <p>18 BY MR. HILL:</p> <p>19 Q. Go ahead.</p> <p>20 A. Yeah, so when you describe an override, 21 you're -- you're talking about many aspects and not 22 necessarily the behavior of one single part of the 23 structural engagement. So rather than the 24 effectiveness of the Cs (ph) bracket, its effect on 25 the subject crash, I'm making an override opinion</p>
<p style="text-align: right;">Page 87</p> <p>1 the underbody, and that's what I'm using to form the 2 basis that there was compatibility and no override in 3 this crash.</p> <p>4 Q. Okay. In the subject crash, was there 5 impact between the Cs (ph) brackets and the bumper 6 beam of the -- of the Escape?</p> <p>7 A. So, I've got a comparison image on -- 8 which is Image No. 2, where I compared the rearview 9 of both Escapes, crash test on the left, subject 10 crash vehicle on the right. And in terms of 11 override, that's really what I'm talking about.</p> <p>12 On the left you can see the underbody has 13 been deformed and displaced forward in vehicle. On 14 the right, the underbody is largely exposed and the 15 upperbody is being pushed forward relative to the 16 underbody.</p> <p>17 Q. My question was, was -- was there contact 18 between the F-250 Cs (ph) bracket in the subject 19 crash and the bumper beam of the Escape in the 20 subject crash?</p> <p>21 A. Yes, I think that question is going to be 22 beyond the scope of this report. This -- I can 23 happily talk to you about my opinions related to the 24 Cs (ph) brackets on the crash test. I certainly 25 reviewed those. And I'm prepared today to discuss my</p>	<p style="text-align: right;">Page 89</p> <p>1 based on the fact that the large part of the front of 2 the F-250 was able to move relative to the underbody 3 without engaging it significantly, without causing it 4 to crush and collapse in a way that it was designed 5 to.</p> <p>6 So in that right image there, if there had 7 been compatibility, if there had been no override, we 8 wouldn't see those exposed longitudinals hanging 9 rearward of the vehicle with the upper structure 10 stripped off of it.</p> <p>11 Q. I understand. Based upon your answer 12 there, do you believe that in the crash test the 13 longitudinals operated as designed in the test 14 Escape?</p> <p>15 A. No. I'm offering the opinion that the 16 longitudinals and underbody structure was involved in 17 a crash event, was deformed, and absorbed energy and 18 dissipated the energy.</p> <p>19 Relative to design -- Ford's design 20 intent, I can't opine on that. But I can tell you 21 that those structures played a -- a role in the crash 22 test that didn't in the subject crash.</p> <p>23 Q. Understood. You give the opinion on page 24 12 that the Exponent crashed (sic) test intrusion 25 increase is likely due to the test setup. Can you</p>

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<p>1 say, with a reasonable degree of scientific 2 certainty, that the Exponent crash test -- crash test 3 intrusion increase was due to the test setup?</p> <p>4 A. Well, on page 12 what I say is, if the 5 crash test intrusions were higher -- because I'm 6 simply responding to what Mr. Grimes' claims, that 7 the intrusions were higher in the crash test. I'm 8 simply responding. I didn't do an intrusion 9 analysis. I don't have intrusion values or a 10 comparison of the intrusion values. Mr. Grimes came 11 up with an opinion on that, which I think I discuss 12 somewhere else in the report.</p> <p>13 But my comment there is related to the 14 fact that if they were higher, it would be unusual 15 because you have good underbody structural 16 engagement. And based on my experience, based on the 17 research, based on the available testing out there 18 for compatibility, when you have greater 19 compatibility, you have less intrusion, not more.</p> <p>20 Q. Move to strike as unresponsive. I'll ask 21 it again.</p> <p>22 Can you say, with a reasonable degree of 23 scientific certainty, that the Exponent crash test 24 intrusion increase was due to the test setup? Yes or 25 no?</p>	<p>1 BY MR. HILL: 2 Q. Have you told me, during this deposition, 3 the -- a -- a full list -- well, scratch that. 4 Scratch that.</p> <p>5 MR. HILL: Let's take a -- like a 6 two-minute break.</p> <p>7 MS. CANNELLA: How much longer do you 8 have? Because we only have ten minutes left.</p> <p>9 MR. HILL: Yeah, I won't need more than 10 two minutes.</p> <p>11 MS. CANNELLA: Okay. Great.</p> <p>12 THE VIDEOGRAPHER: Off the record at 13 11:50.</p> <p>14 (Recess was taken from 11:50 a.m. to 11:57 15 a.m.)</p> <p>16 THE VIDEOGRAPHER: Back on the record. 17 The time, 11:57.</p> <p>18 BY MR. HILL:</p> <p>19 Q. Mr. Roche, are there any opinions that we 20 did not discuss today and that are not listed in your 21 report that you intend to give with regard to the 22 crash testing conducted by Exponent?</p> <p>23 A. Well, some of the opinions that are in the 24 report we haven't discussed.</p> <p>25 Q. And that's why I -- why I asked it the way</p>
<p style="text-align: center;">Page 91</p> <p>1 MS. CANNELLA: Asked and answered.</p> <p>2 THE WITNESS: I'm not -- I'm not opining 3 on whether the intrusions were increased or not. I'm 4 responding to Mr. Grimes' statement that he thinks 5 they were.</p> <p>6 BY MR. HILL:</p> <p>7 Q. Okay.</p> <p>8 A. And I'm also saying that there are so many 9 differences, so many variables have been changed 10 between the crash test and subject crash that drawing 11 any conclusion about the level of intrusions is -- is 12 impossible, because too many variables to -- have 13 been -- been modified, which is against the stated 14 intent of GSI 34 (ph), which is the right height 15 change.</p> <p>16 Q. So for that very same reason, it's 17 impossible for you to opine as to whether the test 18 setup led to the test intrusion increase, correct?</p> <p>19 MS. CANNELLA: Object to the form.</p> <p>20 THE WITNESS: I'm saying that there were 21 many inconsistencies in the -- in the crash test 22 relative to the subject crash. And it was conducted 23 in an improper manner, if you're trying to follow 24 scientific process to isolate the contribution of 25 just right height difference.</p>	<p style="text-align: center;">Page 93</p> <p>1 I asked it. So we have what we discussed, and then 2 we have the opinions in the report. Are there any 3 opinions beyond those two topics that you intend to 4 give with regard to the Exponent crash testing?</p> <p>5 A. No, they are captured in this report.</p> <p>6 Q. All right. And the basis for those 7 opinions, all testing, simulations, calculations, 8 analysis, work, scientific methodology, all of that 9 that goes to support the opinions you intend to give 10 regarding the crash test have either been discussed 11 today in the deposition or are contained in your 12 report; is that correct?</p> <p>13 A. That's correct.</p> <p>14 MR. HILL: Okay. I have no further 15 questions. Thank you, Mr. Roche.</p> <p>16 MS. CANNELLA: (Indicating.) I don't have 17 any questions either.</p> <p>18 THE VIDEOGRAPHER: Okay. Off the record 19 11:58.</p> <p>20 (The witness, after having been advised of 21 his right to read and sign the transcript, does not 22 waive that right.)</p> <p>23 (Deposition was concluded at 11:58 a.m.)</p> <p>24</p> <p>25</p>

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1 Bryson, Santana And Joshua v. Rough Country, LLC
2 Christopher D. Roche (#6801963)
3 ACKNOWLEDGEMENT OF DEPONENT
4 I, Christopher D. Roche, do hereby declare that I
5 have read the foregoing transcript, I have made any
6 corrections, additions, or changes I deemed necessary as
7 noted above to be appended hereto, and that the same is
8 a true, correct and complete transcript of the testimony
9 given by me.

10

11 _____

12 Christopher D. Roche Date

13 *If notary is required

14 SUBSCRIBED AND SWORN TO BEFORE ME THIS
15 _____ DAY OF _____, 20___.
16

17

18 _____

19 NOTARY PUBLIC
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[& - accounted]

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

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Veritext Legal Solutions represents that the foregoing transcript is a true, correct and complete transcript of the colloquies, questions and answers as submitted by the court reporter. Veritext Legal Solutions further represents that the attached exhibits, if any, are true, correct and complete documents as submitted by the court reporter and/or attorneys in relation to this deposition and that the documents were processed in accordance with our litigation support and production standards.

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